ANSCHUTZ
EXPLORATION CORPORATION
2400 ANACONDA TOWER • 555 SEVENTEENTH STREET • DENVER, COLORADO 80202 • 303-298-1000 • FAX 303-298-8881

May 31, 1995

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Application For Permit To Drill:

Texas Creek #14-22
SESW Section 22, T11S, R25E
Uintah County, Utah

Gentlemen:

Enclosed please find an Application For Permit To Drill along with three survey plats for the captioned well and a drilling prognosis. In addition, a copy of the approval letter for a temporary water right for a water well for use while drilling from the Division of Water Rights in Vernal, Utah. The Anschutz Exploration Corporation respectfully requests that the Commission keep all information regarding this well confidential for a period of six months following approval of our application ("**Tight Hole**").

Please notify the undersigned of your decision. Thank you for your prompt attention to this matter.

Sincerely,

Donald R. Day
Engineering Manager
Rocky Mountain Division

Attachments

FORM 3

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

1A. Type of Work: DRILL [X] DEEPEN [ ]

B. Type of Well: OIL [X] GAS [ ] OTHER: SINGLE ZONE [X] MULTIPLE ZONE [ ]

8. Farm or Lease Name: Texas Creek

2. Name of Operator: Anschutz Exploration Corporation

9. Well Number: 14-22

3. Address and Telephone Number: 555 Seventeenth Street; Suite 2400; Denver, CO 80202 303-298-1000

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well (Footages)
At Surface: 465' FSL & 1363' FWL (SESW)
At Proposed Producing Zone:

11. Qtr/Qtr, Section, Township, Range, Meridian: SESW Section 22, T11S, R25E, SLM

14. Distance in miles and direction from nearest town or post office: approximately 16 miles south of Bonanza, Utah

12. County: Uintah 13. State: UTAH

15. Distance to nearest property or lease line (feet): 465'

16. Number of acres in lease: 9562.33

17. Number of acres assigned to this well: NA

18. Distance to nearest well, drilling, completed, or applied for, on this lease (feet): NA

19. Proposed Depth: 11,400

20. Rotary or cable tools: Rotary

21. Elevations (show whether DF, RT, GR, etc.): 5651' GR

22. Approximate date work will start: 6-25-95

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
30	20" conductor	0.25	80'	+/- 15 yards
17½"	13-3/8" J-55	54.5	800'	720 sx
12¼"	9-5/8" N-80/S95 40 & 43.5		9000'	385 sx
8½"	5½" N-80	17.0	8600-11400 liner	900 sx

DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

See attached Drilling Prognosis for details of proposed well.

RECEIVED
JUN 05 1995
DIV. OF OIL, GAS & MINING

24.
Name & Signature: Donald R. Day Title: Engineering Manager-RMD Date: 5-31-95

(This space for State use only)

API Number Assigned: 43-047-32693

Approval:

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 6/20/95
BY: [signature]

(See Instructions on Reverse Side)

(1\93)

FORM 3

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

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B. Type of Well: OIL [X] GAS [ ] OTHER: SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. Name of Operator: Anschutz Exploration Corporation

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4. Location of Well (Footages)
At Surface: 465' FSL & 1363' FWL (SESW)
At Proposed Producing Zone:

DON DAY
303-299-1532
DAN GALLAGHER
FAX 303-294-8881

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Farm or Lease Name: Texas Creek

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Approval:

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 6/6/95
BY: [signature]

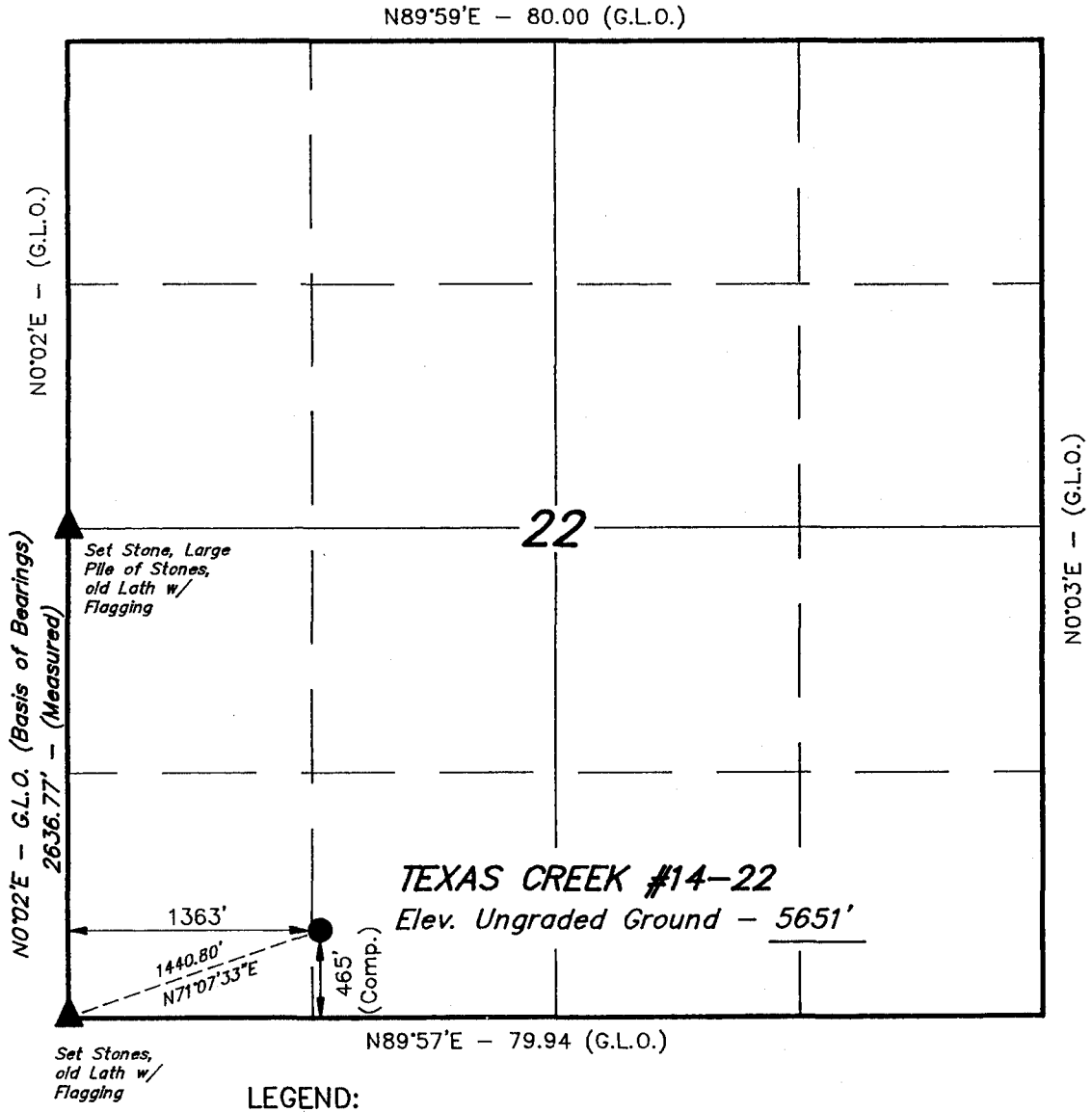
(See Instructions on Reverse Side)

(1\93)

ANSCHUTZ EXPLORATION CORP.

Well Location, TEXAS CREEK #14-22, located as shown in SE 1/4 SW 1/4 of Section 22, T11S, R25E, S.L.B.&M. Uintah County, Utah.

T11S, R25E, S.L.B.&M.

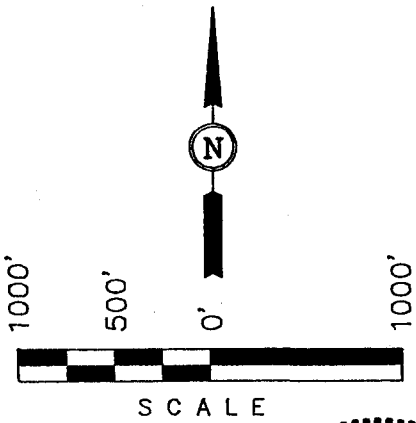


LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- = SECTION CORNERS LOCATED.

BASIS OF ELEVATION

BENCH MARK (P26-1933) LOCATED IN THE NE 1/4 OF SECTION 28, T11S, R25E, S.L.B.&M. TAKEN FROM THE DRAGON QUADRANGLE, UTAH-COLORADO, 7.5 MINUTE (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5556.518 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

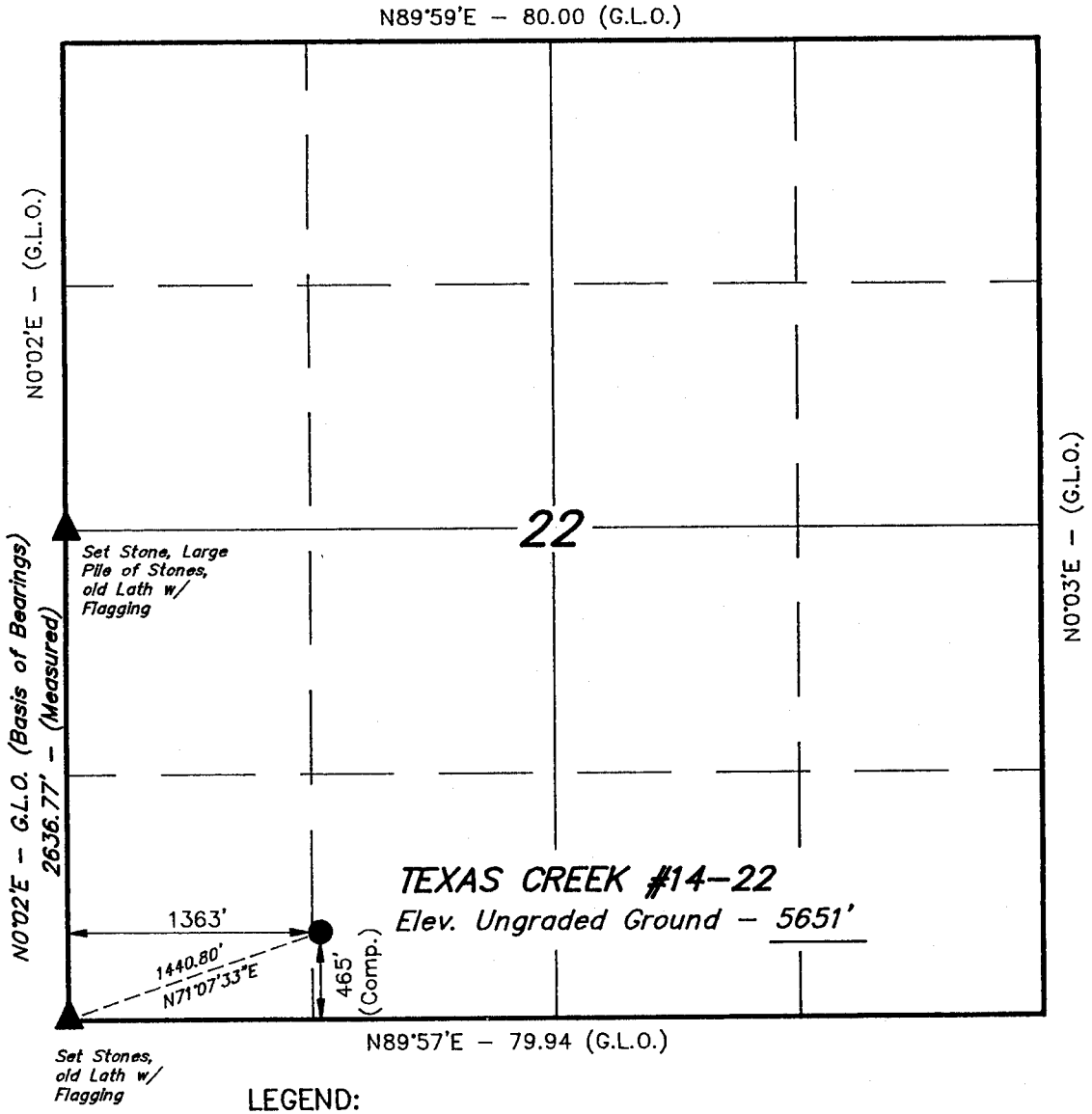
REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

REVISED: 5-10-95 D.R.B.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(801) 789-1017

SCALE	DATE SURVEYED:	DATE DRAWN:
1" = 1000'	4-14-95	4-21-95
PARTY: J.K. J.M. D.R.B.	REFERENCES: G.L.O. PLAT	
WEATHER: COLD/SNOWING	FILE: ANSCHUTZ EXPLORATION CORP.	

T11S, R25E, S.L.B.&M.



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ANSCHUTZ EXPLORATION CORP.

Well Location, TEXAS CREEK #14–22, located as shown in SE 1/4 SW 1/4 of Section 22, T11S, R25E, S.L.B.&M. Uintah County, Utah.

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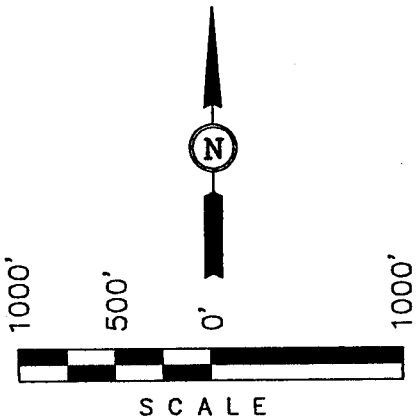

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REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

REVISED: 5-10-95 D.R.B.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST – VERNAL, UTAH 84078
(801) 789–1017

SCALE: 1" = 1000'	DATE SURVEYED: 4–14–95	DATE DRAWN: 4–21–95
PARTY: J.K. J.M. D.R.B.	REFERENCES: G.L.O. PLAT	
WEATHER: COLD/SNOWING	FILE: ANSCHUTZ EXPLORATION CORP.	

ANSCHUTZ EXPLORATION CORPORATION
Texas Creek #14-22
SESW Section 22, T11S, R25E
Uintah County, Utah

DRILLING PROGNOSIS

I. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS
(Assumes KB elevation of 5671'- 20' above GL)

FORMATION	TVD	SUBSEA
Mancos	5050'	+621'
Niobrara	8150'	-2479'
Dakota Sand	8725'	-3054'
Chinle	10370'	-4699'
Weber	11070'	-5399'
TD	11400'	-5729'

II. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERAL

FORMATION	INTERVAL	POSSIBLE ACCUMULATION
Dakota	8725-8915'	Gas/Cond./Water
Phosphoria	10970-11070'	Oil/Gas/Water
Weber	11070-11200'	Oil/Gas/Water

III. PRESSURE CONTROL EQUIPMENT (Exhibit A)

Type 13-5/8" Double Gate hydraulic with 13-5/8" annular BOP choke manifold and 13-3/8" x 13-5/8" casing head. Upper and lower Kelly cocks as well as inside BOP will a/pplso be available. A 13-5/8" rotating head will also be utilized.

Pressure Rating All components to be rated to 3,000 psi working pressure.

Testing Procedure BOP and choke manifold will be installed and pressure tested before drilling out any protective strings of casing, then checked daily for mechanical operating condition. Ram-type preventers and related pressure control equipment will be pressure tested to the pressure of the stack assembly, or 70% of the internal yield of the surface casing, whichever is less. Annular preventer will be pressure tested to 50% of rated working pressure upon installation. BOP and choke manifold pressure rating will exceed the maximum anticipated surface pressure. The choke manifold and BOP extension rods with handwheels will be located outside of the sub-structure. The hydraulic BOP closing unit will be located at least 25 feet from the

wellhead. Exact locations and configurations of BOP equipment will depend upon the particular rig contracted do drill the well.

IV. CASING AND CEMENTING PROGRAM

A) Casing Program (All New)

Casing/Hole Size	Casing Description	Interval	Length
30"/20"	Conductor (0.25" WT)	0-80'	80'
17-1/2"/13-3/8"	54.5#, J-55, LTC	0-800'	800'
12-1/4"/9-5/8"	40/43.5#,N-80/S-95, LTC	0-9,000'	9,000'
8-1/2"/5-1/2"	17.0#, J-55, LTC	8,600-11,400'	2,800'

B) Cementing Program

CASING/HOLE SIZE	CEMENT SLURRY	SX	PPG	YIELD
20"/30"	Premium cement containing 1/4#/sk Flocele (cellophane flakes) + 2% CaCl2	300	15.6	1.18

NOTE: If no surface water is encountered while drilling conductor hole, conductor casing may be cemented with approximately 15 yds of Redi-Mix.

13-3/8"/17-1/2"	Lead: 50:50 Poz:Class G + 2% gel + 1/4 #/sk Cellophane flakes + 2% CaCl2 (accelerator) +	449	14.4	1.16
	Tail: Class G + 2% CaCL2 + 1/4#/sk Cellophane Flakes	272	15.8	1.15
9-5/8"/12-1/4"	Lead: 85:15 Poz:Class G + 6% gel + 2#/sk fumed Silica + 3% salt	285	12.5	2.15
	Tail: Class G	100	15.8	1.14
5.5"/8-1/2	50:50 Poz:Class G + .6% CF-14A + .2% CF-2 + .2% TF-4 + .15% ASA-301 + 3% KCL	900	14.0	1.30

NOTE: Actual cement volumes to be determined from caliper log. Cement design may be altered depending on actual bottomhole temperatures and potential producing intervals. A stage cementing tool and/or external casing packers may be run in the event of lost circulation.

V. DRILLING FLUIDS PROGRAM

INTERVAL	TYPE	WEIGHT (PPG)	VISCOSITY (SEC)	FLUID LOSS (CCS)
0-800'	Gel-Lime	8.8-9.0	40 sec	N/C
800-9,000'	LSND	8.7-8.9	38-40 sec	6-8 ccs
7,000-11,400'	LSND	8.7-8.9	38-40 sec	6-8 ccs

Drilling mud inventory (including weight and lost circulation materials) will be stockpiled on location. Supplemental materials will be transported from local warehouses.

VI. EVALUATION PROGRAM

Logs: DIL-SFL-SP, LDT-CNL-GR-CAL, BHC Sonic-GR-CAL and Dipmeter from TD to base of surface casing.

DST's: Potential tests of significant shows as determined yb the wellsite geologist.

Coring: Potential cores of the main expected productive zone.

Geologist/Mud Logger: A wellsite geologist will be present from spud to TD. A two-man mud logging unit, complete with hot-wire and chromatograph will be operational from spud to TD.

NOTE: Evaluation program may change at the discretion of the wellsite geologist.

Stimulation: No stimulation has been formulated for this well at this time. The drillsite, as applied for, will be of sufficient size to accommodate any activity.

Whether the well is completed as a dry hole or a producer, Well Completion and Recompletion Report & Log (Form 8) will be submitted to the Utah Department of Natural Resources not later than thirty days after completion of operations, in accordance with Utah regulations. Copies of summaries, all logs, core description, core analyses, well test data, geologic summaries, sample descriptions, and all other surveys of data obtained during the drilling and completion operations will be filed with Form 8.

VII. ABNORMAL CONDITIONS

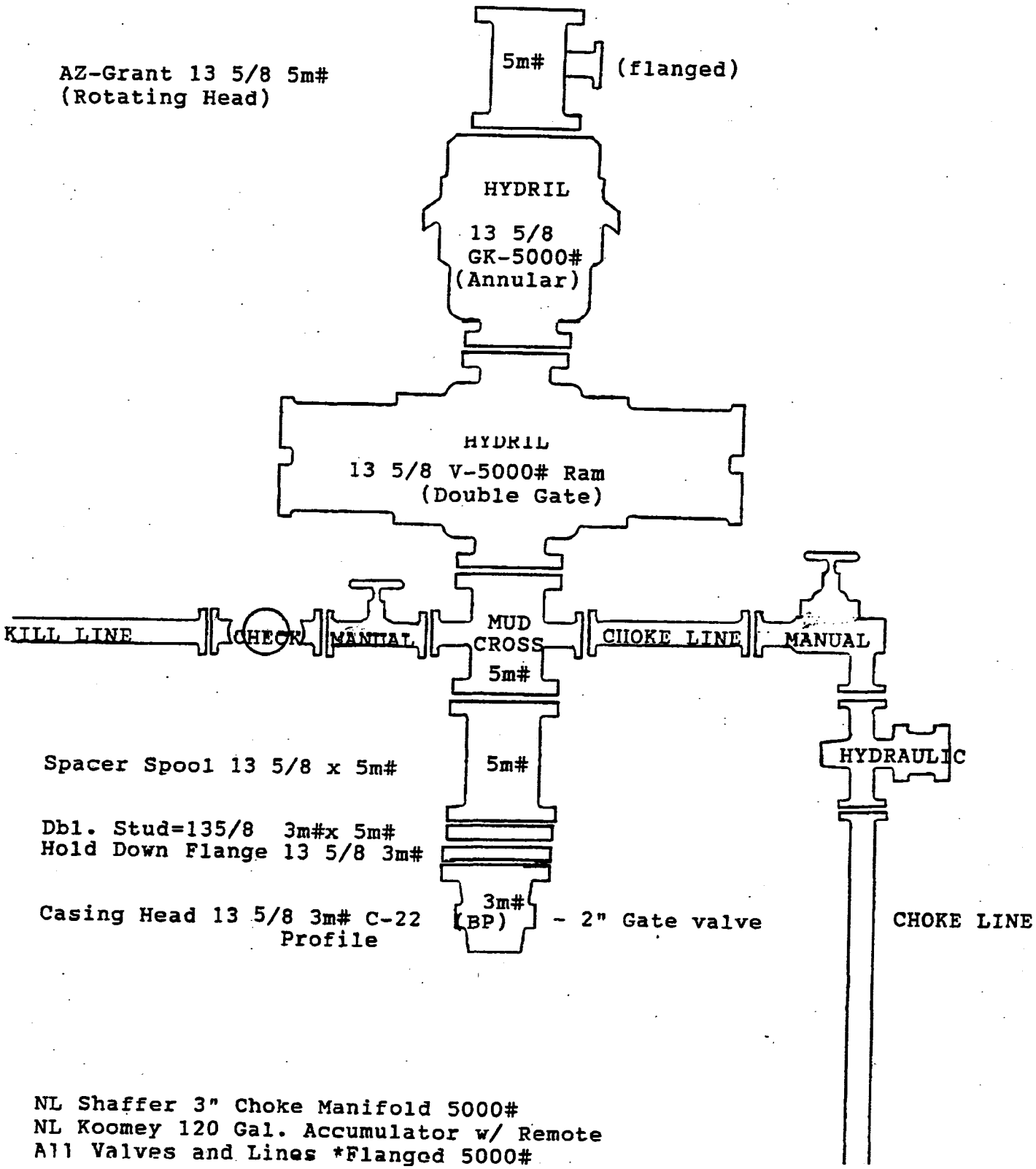
No abnormal temperatures or pressures are anticipated.

VIII. DRILLING ACTIVITY

Drilling Activity:

Anticipated Commencement Date	- circa June 25, 1995
Anticipated Drilling Duration	- 40 days
Anticipated Completion Duration	- 15 days

Anschutz Exploration Corporation
Texas Creek #14-22, SESW Section 22, T11S, R25E
Uintah County, Utah



NL Shaffer 3" Choke Manifold 5000#
NL Koomey 120 Gal. Accumulator w/ Remote
All Valves and Lines *Flanged 5000#

Tested = BOPs, Valves And Lines = 3000#
Hydril (Annular) = 1500#
Casing = 1900#

(HAW)

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER RIGHTS

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Robert L. Morgan
State Engineer

Eastern Area
State/County Building
152 East 100 North
Vernal, Utah 84078-2110
801-781-0770 x 327

RECEIVED
MAY 15 1995

Anschutz Exploration Corporation
2400 Anaconda Tower
555 Seventeenth Street
Denver, CO 80202

May 8, 1995

Dear Applicant:

RE: 49-1557 (T68805)

Reference is made to your request to drill provisional wells at the following location(s):

(1) N 465 ft. E 1363 ft. from the SW corner, Section 22, Township 11S, Range 25E, SLBM

The purpose of the provisional well(s) is to determine the quality and availability of an adequate water supply to be covered by the above noted application filed with the Division of Water Rights.

This letter grants you permission to proceed with the construction of the well with the understanding that this letter DOES NOT GRANT ANY PERMISSION OR APPROVAL TO PROCEED WITH THE DIVERSION OR USE OF THE WATER FOR ANY PURPOSE WHATSOEVER.

The well driller must have a current license with the State Engineer (if the well is to be deeper than 30 feet), and the well must be constructed in accordance with the State of Utah Administrative Rules for Water Well Drillers.

Following completion and testing, the well casing either must be sealed with a tamper-resistant, water-tight cap or permanently abandoned by the licensed driller (if deeper than 30 feet) before the drill rig is removed from the site.

Water may not be diverted from the provisional well and used for any beneficial purpose until proper authorization (approval) is granted by the State Engineer.

Please note that your permission to proceed with the drilling of a provisional well(s) expires November 8, 1995.

Sincerely,

Robert W. Leake, P.E.
Regional Engineer

THE ANSCHUTZ CORPORATION
TEXAS CREEK #14-22
SESW SECTION 22, T11S, R25E
UINTAH COUNTY, UTAH

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

I. EXISTING ROADS (Refer to Map "A" - Shown in Red)

A. The Texas Creek #14-22 location and proposed access road has been staked with surveyor's plats enclosed. Four 200 foot reference stakes are present.

B. To reach the location from Vernal, Utah, proceed south on State Highway 45 approximately 35 miles to Bonanza, Utah. Go 15.6 miles south on 45. Turn east or left on county road in Park Canyon. Go approximately 1 mile to location road. Turn left and go about 500 feet to location.

C. Access Roads - refer to Maps "A" and "B".

D. Existing roads within a one mile radius - refer to Map "C".

E. No low water crossings are anticipated based on the inspection conducted in early 1995. No cattleguards are anticipated. In general, existing roads will be maintained in the same or better condition as existed prior to the commencement of operations and maintenance will continue until final abandonment and reclamation of the well location.

II. PLANNED ACCESS ROADS

A very short access road is necessary. Location sits approximately 525 feet from existing road. If necessary, existing road will be improved for drilling traffic.

A. Width: 14 foot running surface already exists.

B. Maximum grade: Not Applicable.

C. Turnouts: None.

D. Drainage design: The access road as is, appears to be adequate.

E. Culverts, cuts and fills: It is anticipated that no culverts will be needed on the existing access road as shown on Map "B".

F. Surface material: Existing access road should be adequate for drilling operations. If gravel is necessary, it will be obtained from existing pits in the area.

G. Gates, cattleguards or fence cuts: None required.

III. LOCATION OF EXISTING WELLS WITHIN A ONE-MILE RADIUS

A. Water wells: None.
B. Abandoned wells: See Map C.
C. Producing wells: None.
D. Disposal wells: None.
E. Drilling wells: None.
F. Completing wells: None.
G. Shut-in wells: None.
H. Injection wells: None.
I. Monitoring wells: None.

IV. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES OWNED BY THE ANSCHUTZ CORPORATION WITHIN A ONE-MILE RADIUS

A. Existing

1. Tank batteries: None.
2. Production facilities: None.
3. Oil gathering lines: None.
4. Gas gathering lines: None.
5. Disposal Facilities: None.

B. New facilities contemplated (Figure 1)

1. All production facilities should be located on the disturbed portion of the well pad (if off-site treating/storage facilities are required, a Sundry Notice requesting permission will be submitted).
2. Production facilities will require an area approximately 300' X 150'.
3. Construction materials needed for the installation of the production facilities will be obtained from the site or area gravel pits.
4. Any open pits will be fenced (immediately after construction) to protect wildlife and/or livestock.
5. A berm will be constructed around the tank battery to contain 110% of the tank capacity. All load lines will be placed within the berm.

6. All permanent structures will be painted in accordance with Utah stipulations.

C. Reclamation

1. Reclamation of disturbed areas no longer needed for operations will be accomplished by grading, levelling and seeding as recommended by the state of Utah.

V. LOCATION AND TYPE OF WATER SUPPLY

A. It is anticipated that water will be purchased from Dalbo Incorporated (permit #49-1544) to provide water for drilling operations. Prior to using the water, approval from the State of Utah Division of Water Rights will be obtained.

B. Water for human consumption will be hauled from Vernal, Utah.

VI. SOURCE OF CONSTRUCTION MATERIALS

A. Construction materials should not be needed for well pad construction. Gravel, if necessary, will be obtained from gravel pits in the area.

B. If production is established, any construction materials required for upgrading the access road and installing production facilities will be obtained from existing pits. The appropriate approvals will be obtained prior to the movement of such materials.

C. No new access roads for construction materials will be required.

VII. METHODS OF HANDLING WASTE MATERIAL DISPOSAL

A. Cuttings: to be deposited in the reserve pit.

B. Drilling fluids: to be contained in the reserve pit and allowed to evaporate.

C. Produced fluids: to be collected in sealable tanks. Any spills of oil, salt water or other noxious fluids will be reported, cleaned-up and removed to an approved site.

D. Sewage: Six bore holes approximately 10 feet deep will be provided for grey-water disposal. Upon completion of operations, the contents will be covered. Two porta-johns will be on location for human waste. The contents will be pumped and disposed of in a manner consistent with county health regulations. Note: if rock prohibits the drilling of sewage holes, a holding tank may be installed on the edge of the location, downhill of living accommodations. Contents will be pumped and disposed of in a manner consistent with county health regulations.

E. Garbage and other waste material: Garbage will be contained in a trash bin and disposed of at an approved land fill.

F. After the drilling rig moves out, all materials will be cleaned up with no adverse materials left on location.

VIII. ANCILLARY FACILITIES

If feasible, a cable will be run from the nearest telephone outlet to the wellsite. This cable will be run on the surface, and no additional surface disturbance will be required.

IX. WELLSITE LAYOUT

A. Figure #2 is a diagram showing the rig layout. No permanent living facilities are planned. There will be six trailers on location; one each for mud logger, toolpusher, geologist, engineer, mud engineer and rig crews.

B. Figure #1 shows the proposed production facilities layout.

C. The reserve pit will be constructed primarily in cut and will have a minimum of 2 feet of freeboard from the top of the dike to the maximum anticipated fluid level. The reserve pit will not be lined, unless materials or water are encountered during the construction that would warrant lining.

D. Brush and topsoil will be stockpiled separately, before construction of the wellsite.

X. PLANS FOR RECLAMATION OF THE SURFACE

A. Backfilling, levelling and re-contouring are planned as soon as the pits have dried. Waste and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible.

B. Re-vegetation will be accomplished by planting mixed grasses as per Utah recommendation.

C. Three sides of the reserve pit will be fenced during drilling operations. Prior to rig release, the reserve pit will be fenced on the fourth side to prevent wildlife from becoming entrapped, and the fence will be maintained until levelling and cleanup are accomplished. After the location is reclaimed, the entire location will be fenced until adequate vegetation has appeared after reseeding. Fences will be flagged at least every 30 feet with white flagging. Fences will be four-strand barbed-wire, with the bottom strand to be smooth wire and no higher than 16" above ground level. The maximum fence height will be 42".

D. If any oil is on the pits and is not immediately removed after operations cease, the pit containing the oil or other adverse substances will be flagged overhead or covered with wire mesh.

E. The rehabilitation operations will begin after the completion rig is removed. Removal of oil or other adverse substances will begin immediately or area will be flagged and fenced. Other cleanup will be done as needed. Planting and revegetation is considered best in Fall or Spring, unless requested otherwise.

XI. SURFACE OWNERSHIP

The wellsite and access road is situated on surface owned by the mineral owner. All new construction will be limited to the well location and access road.

XII. OTHER INFORMATION

None.

XIII. LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION

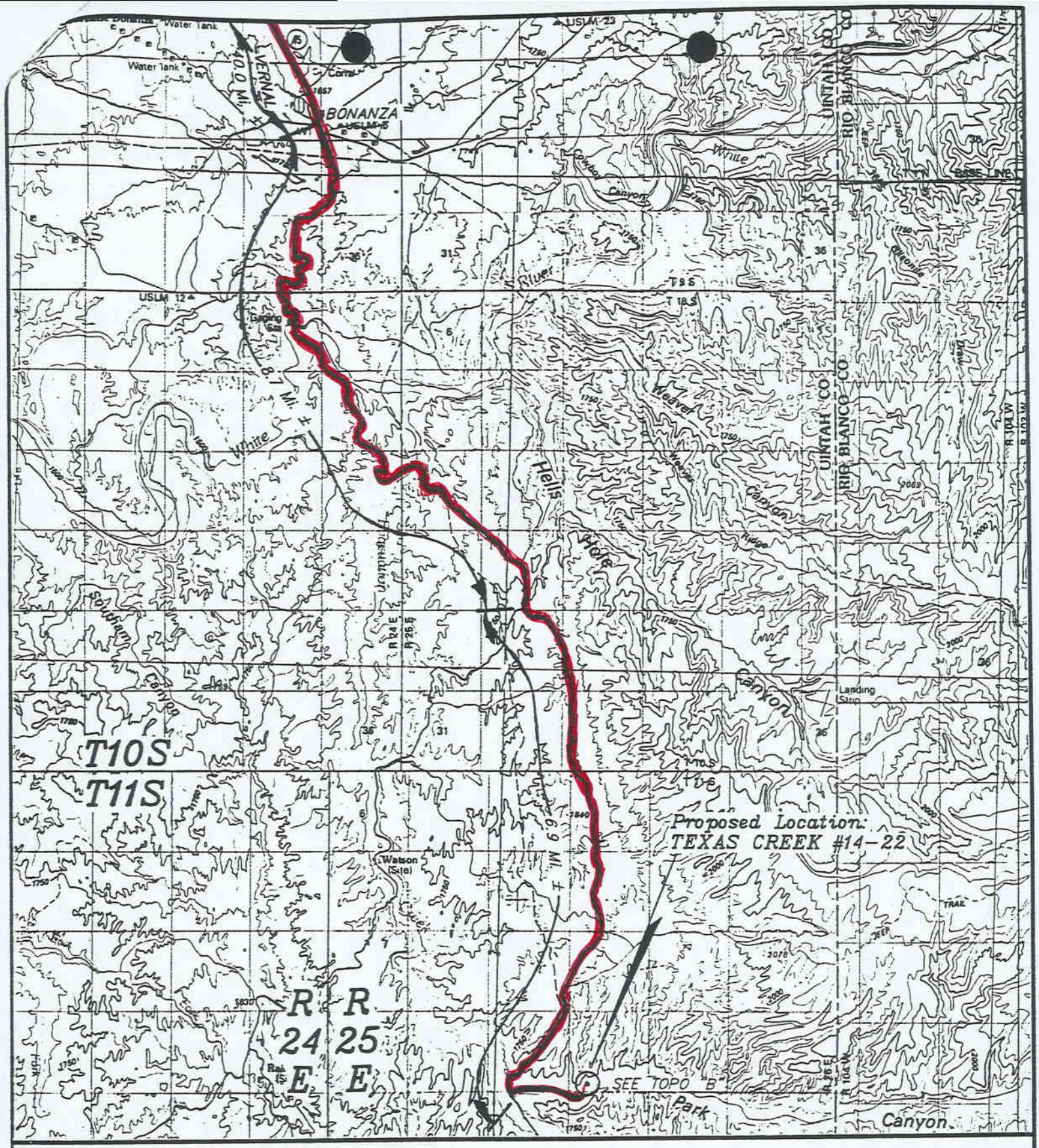
Anschutz Exploration Corporation
555 17th Street; Suite 2400
Denver, Colorado 80202
(303) 298-1000

Attn: Donald R. Day

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Anschutz Exploration Corporation and it's contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

6-7-95
Date

Donald R. Day
Engineering Manager - Rocky Mountain Division
Anschutz Exploration Corporation



TOPOGRAPHIC MAP "A"

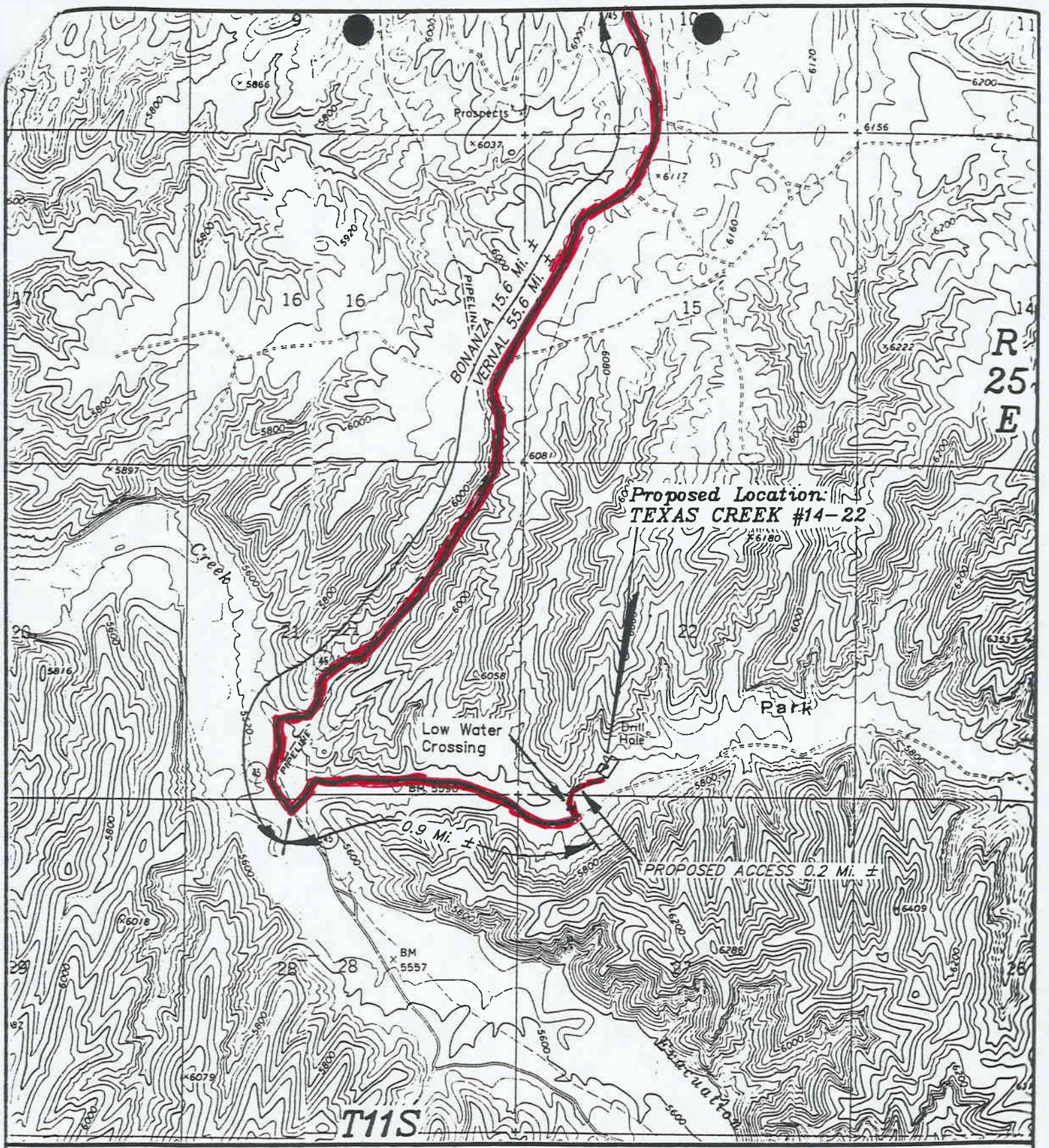
DATE: 4/20/95 D.COX

N

ANSCHUTZ EXPLORATION CORP.

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
465' FSL 1363' FWL

Revised: 5-10-95 D.R.B.



T O P O G R A P H I C

M A P "B"

SCALE: 1"=2000'

DATE: 4/20/95 D.COX

N

ANSCHUTZ EXPLORATION CORP.

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
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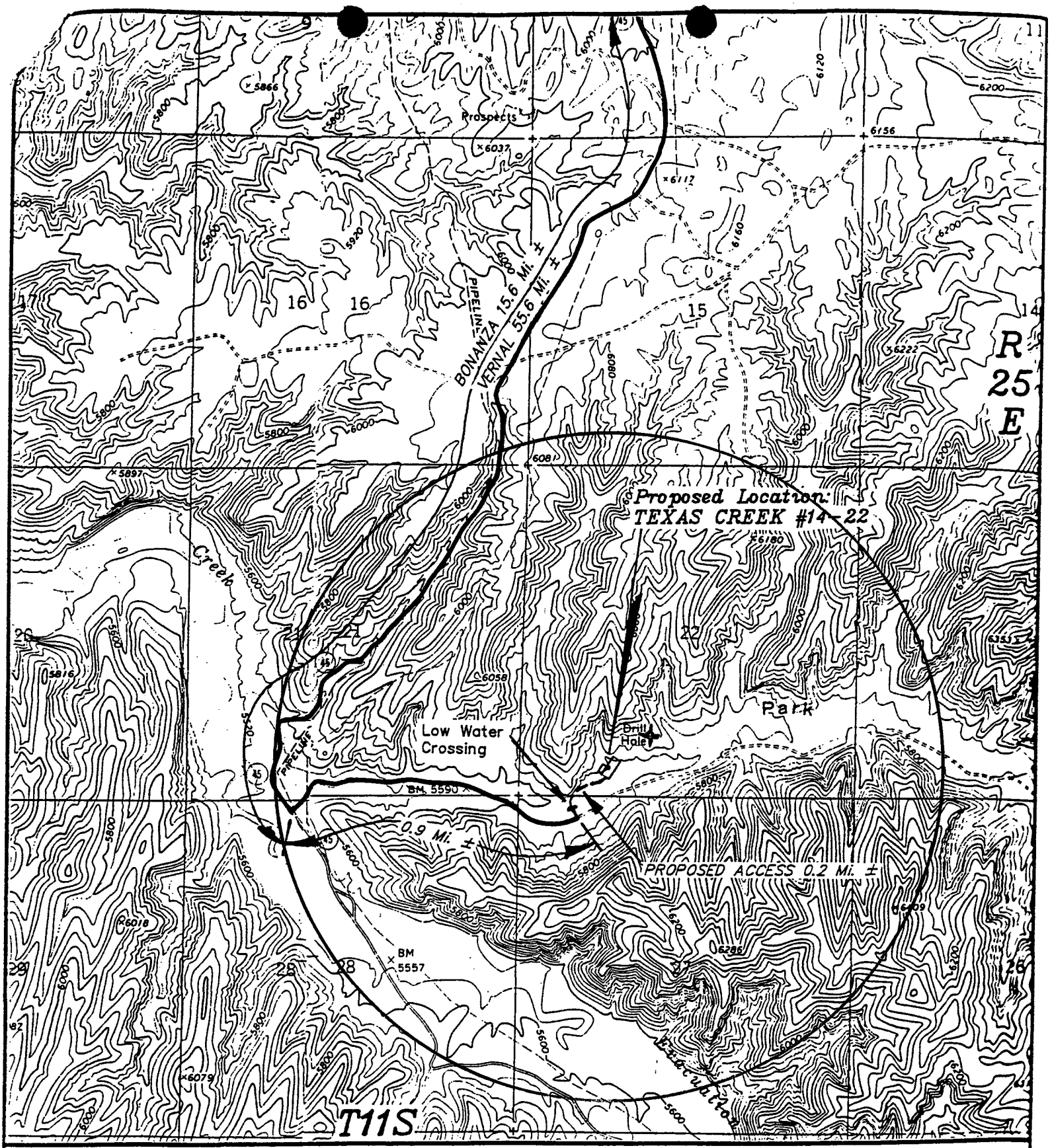


TOPOGRAPHIC MAP "C"

SCALE: 1"=2000'

DATE: 4/20/95 D.COX

N

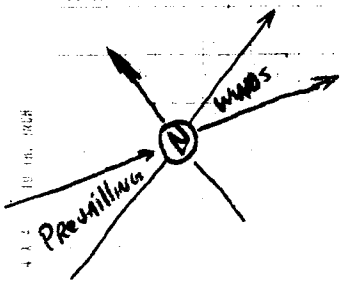
ANSCHUTZ EXPLORATION CORP.

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
465' FSL 1363' FWL

Revised: 5-10-95 D.R.B.

BY _____ DATE _____ SUBJECT _____ SHEET NO. _____ OF _____

CHKD. BY _____ DATE _____ JOB NO. _____



Anschutz Exploration Corporation

Texas Creek #14-22

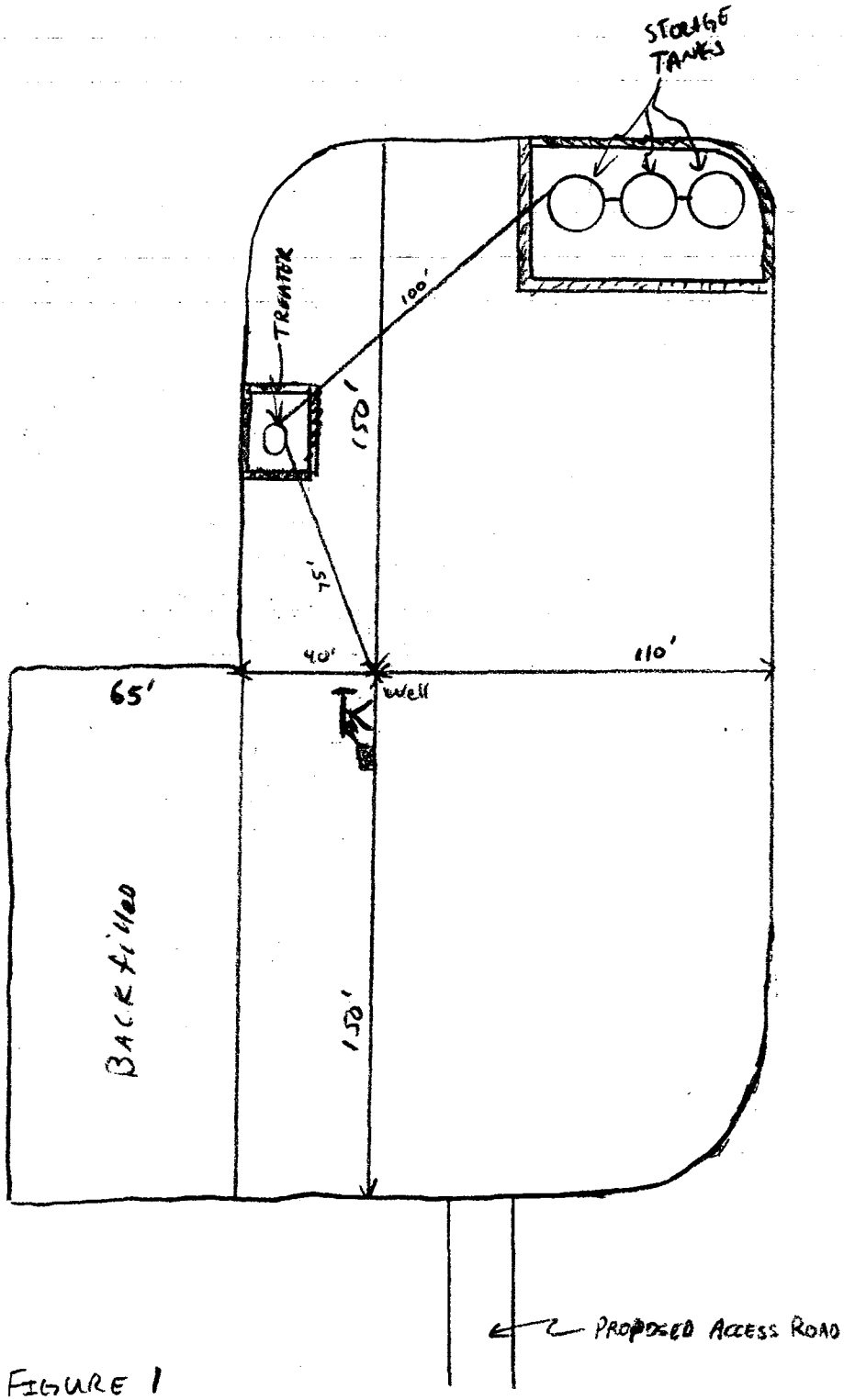


FIGURE 1

PRODUCTION FACILITIES LAYOUT

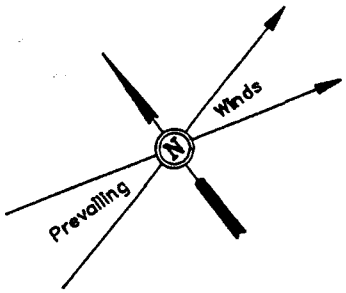
FIGURE 2.

ANSCHUTZ EXPLORATION CORP.

LOCATION LAYOUT FOR

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
465' FSL 1363' FWL

REGISTERED LAND SURVEYOR NO. 161319 ROBERT L. KAY STATE OF UTAH



Revised: 5-10-95 D.R.B.
SCALE: 1" = 50'
DATE: 4-21-95
Drawn By: D.R.B.

C-16.1'
El. 62.2'

C-6.6'
El. 52.7'

CONSTRUCT DIVERSION DITCH

F-0.8'
El. 45.3'

Sta. 3+00

Approx. Top of Cut Slope

Exist. Drainage

NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.

FLARE PIT

DATA

CATWALK

150'

PIPE RACKS

Approx. Toe of Fill Slope

Reserve Pit Backfill & Spoils Stockpile

El. 56.5'
C-20.4'
(btm. pit)

C-6.0'
El. 52.1'

C-4.5'
El. 50.6'

LOC

RIG

DOG HOUSE

40'

110'

Sta. 1+50

F-5.9'
El. 40.2'

NOTE:
Pit Capacity W/2' of Freeboard is ± 8,900 Bbls.

65'

MUD TANKS

WATER

TRAILERS

PUMP

MUD SHED

TOILET

HOPPER

FUEL

POWER

TOOLS

FUEL

STORAGE TANK

RESERVE PITS (10' Deep)

150'

1 1/2:1 Slope

Topsoil Stockpile

TRASH

Sta. 0+15

150'

Round Corners as Needed

Sta. 0+00

10' Wide Dike

El. 53.9'
C-17.8'
(btm. pit)

El. 40.3'
F-5.8'

F-8.1'
El. 38.0'

F-12.1'
El. 34.0'

Proposed Access Road (Ramp Road on to Location)

Elev. Ungraded Ground at Location Stake = 5650.6'

Elev. Graded Ground at Location Stake = 5646.1'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017

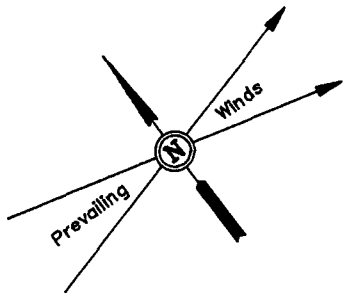
ANSCHUTZ EXPLORATION CORP.

LOCATION LAYOUT FOR

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
465' FSL 1363' FWL

REGISTERED LAND SURVEYOR NO. 161319 ROBERT L. KAY STATE OF UTAH

Revised: 5-10-95 D.R.B.
SCALE: 1" = 50'
DATE: 4-21-95
Drawn By: D.R.B.



C-16.1'
El. 62.2'

C-6.6'
El. 52.7'

CONSTRUCT DIVERSION DITCH

F-0.8'
El. 45.3'

Sta. 3+00

Approx. Top of Cut Slope

Exist. Drainage

150'

DATA

CATWALK

FLARE PIT

NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.

Approx. Toe of Fill Slope

PIPE RACKS

Reserve Pit Backfill & Spoils Stockpile

El. 56.5'
C-20.4'
(btm. pit)

C-6.0'
El. 52.1'

C-4.5'
El. 50.6'

DOG HOUSE

RIG

40'

110'

Sta. 1+50

F-5.9'
El. 40.2'

65'

MUD TANKS

WATER

TRAILER

PUMP

MUD SHED

TOILET

HOPPER

FUEL

POWER

TOOLS

STORAGE TANK

FUEL

Topsoil Stockpile

NOTE:
Pit Capacity W/2' of Freeboard is ± 8,900 Bbls.

150'

RESERVE PITS (10' Deep)

1 1/2:1 Slope

Sta. 0+15

TRASH

150'

Round Corners as Needed

Sta. 0+00

10' Wide Dike

El. 53.9'
C-17.8'
(btm. pit)

El. 40.3'
F-5.8'

F-8.1'
El. 38.0'

F-12.1'
El. 34.0'

Proposed Access Road (Ramp Road on to Location)

Elev. Ungraded Ground at Location Stake = 5650.6'

Elev. Graded Ground at Location Stake = 5646.1'

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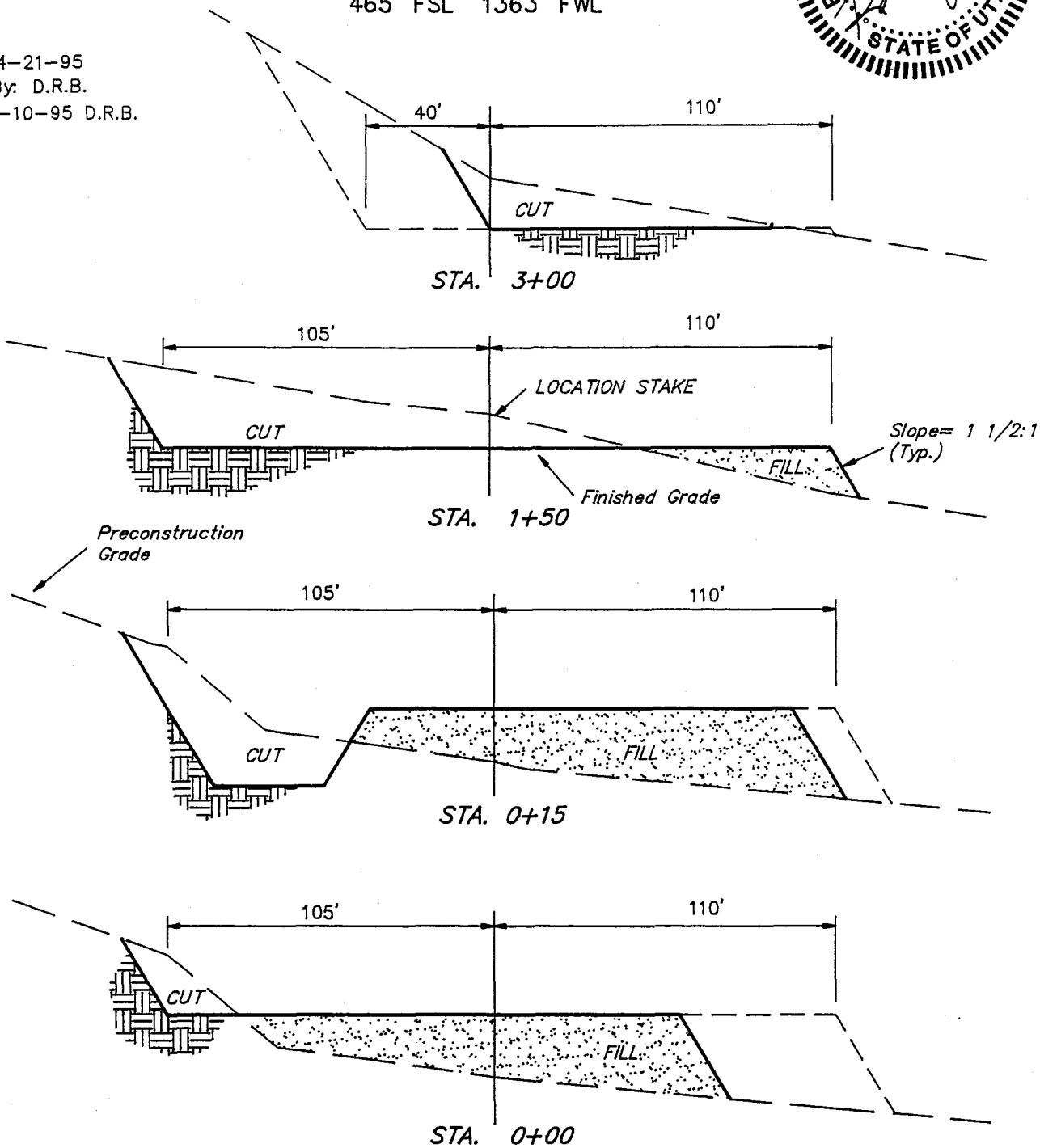
TYPICAL CROSS SECTIONS FOR

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
465' FSL 1363' FWL

1" = 20'
X-Section Scale
1" = 50'

DATE: 4-21-95
Drawn By: D.R.B.
Revised: 5-10-95 D.R.B.

REGISTERED LAND SURVEYOR
NO. 161319
ROBERT L. KAY
STATE OF UTAH



APPROXIMATE YARDAGES

(6") Topsoil Stripping	= 1,020	Cu. Yds.
Remaining Location	= 7,720	Cu. Yds.
TOTAL CUT	= 8,740	CU.YDS.
FILL	= 6,130	CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION	= 2,290	Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 2,290	Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	= 0	Cu. Yds.

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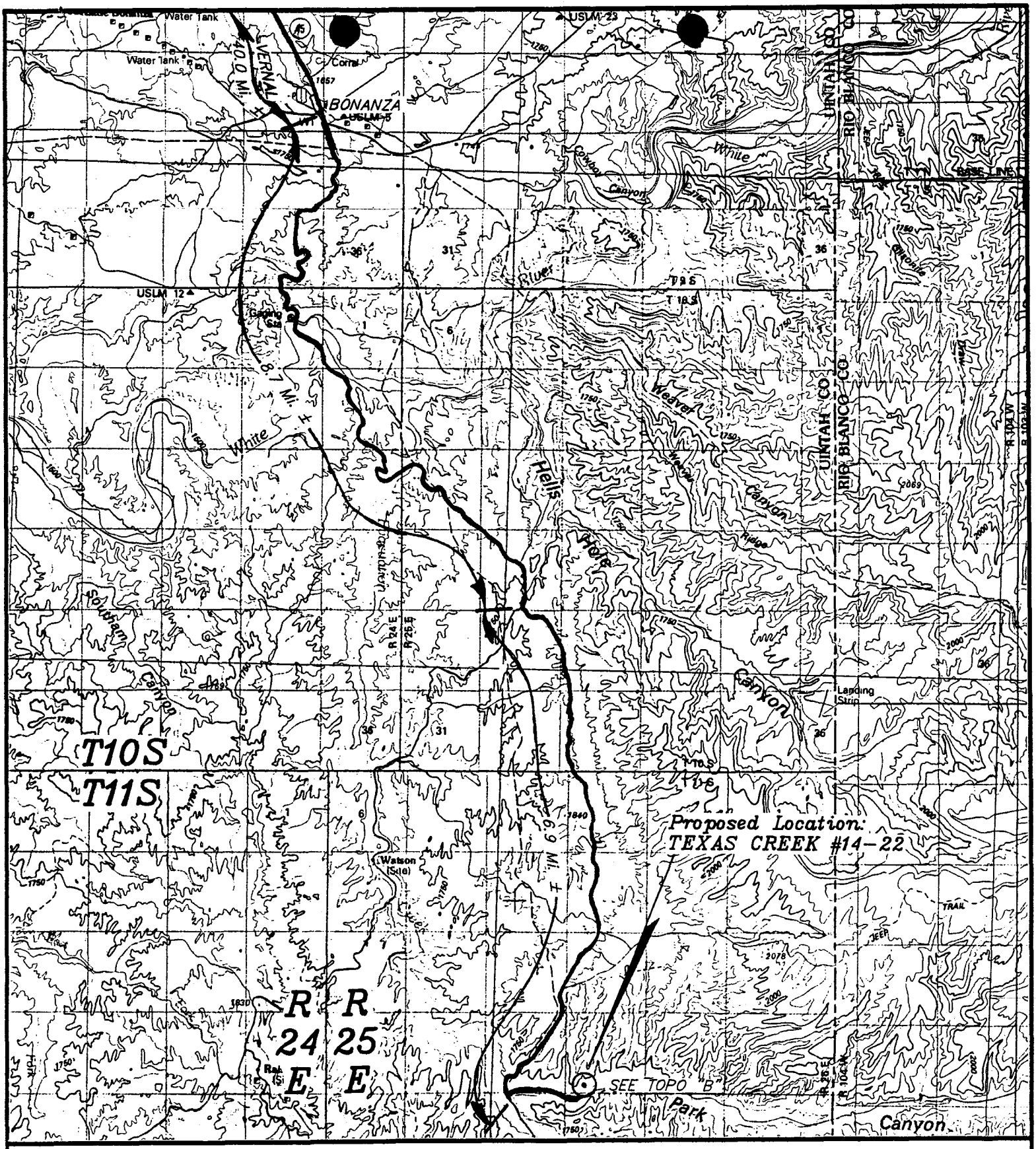

TOPOGRAPHIC MAP "A"

DATE: 4/20/95 D.COX

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ANSCHUTZ EXPLORATION CORP.

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
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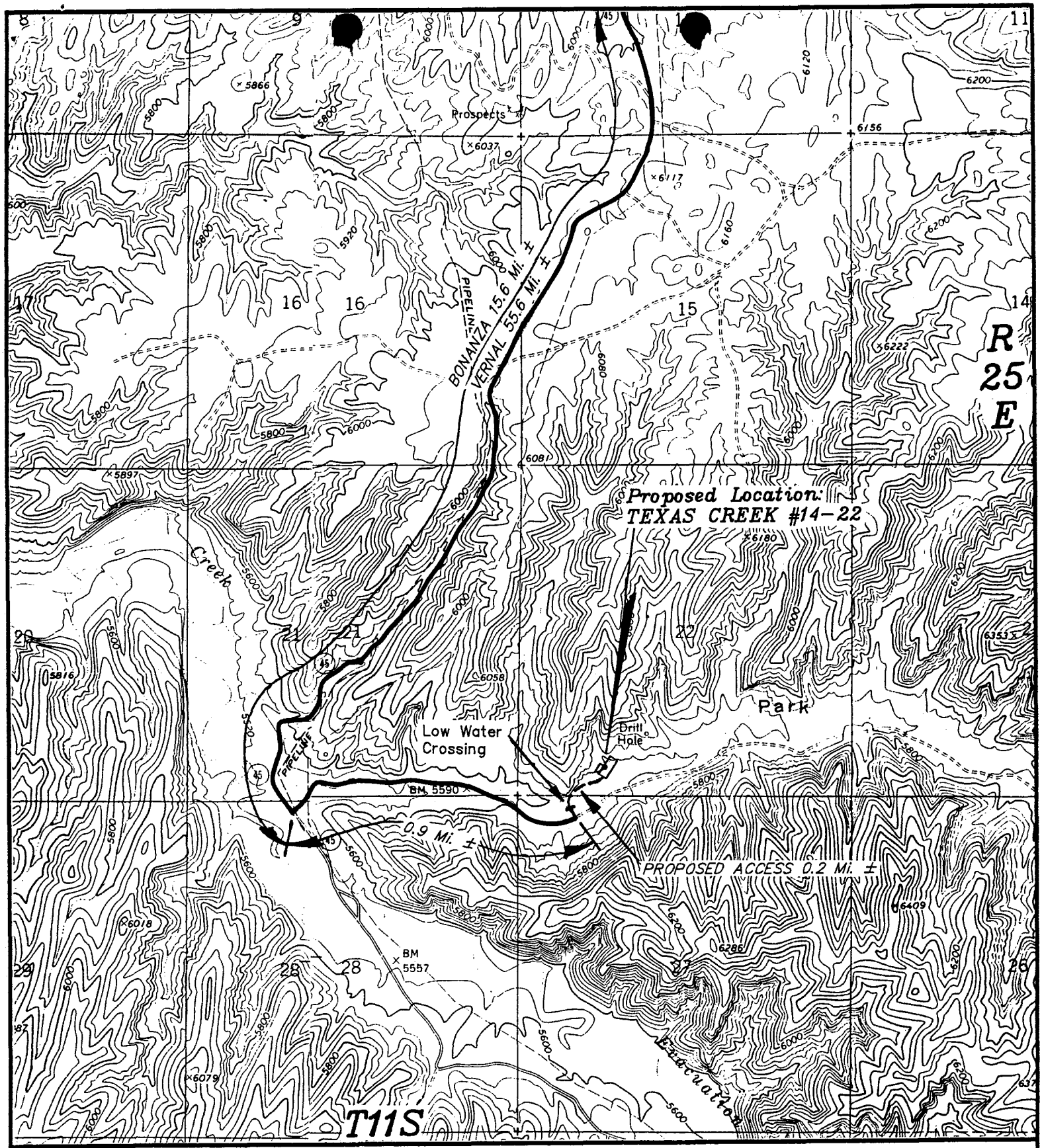

TOPOGRAPHIC MAP "B"

SCALE: 1"=2000'

DATE: 4/20/95 D.COX

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ANSCHUTZ EXPLORATION CORP.

TEXAS CREEK #14-22
SECTION 22, T11S, R25E, S.L.B.&M.
465' FSL 1363' FWL

Revised: 5-10-95 D.R.B.

ANSCHUTZ
EXPLORATION CORPORATION
2400 ANACONDA TOWER • 555 SEVENTEENTH STREET • DENVER, COLORADO 80202 • 303-298-1000 • FAX 303-298-8881

June 7, 1995

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Application For Permit To Drill:

Texas Creek #14-22
SESW Section 22, T11S, R25E
Uintah County, Utah

Gentlemen:

Regarding questions raised during phone call between Mike Hebertson and the undersigned, please be informed that the lease involved is fee acreage. Anschutz Exploration Corporation is currently negotiating a surface use agreement, which will be in place prior to building location and drilling the well. Attached is a copy of a document used with BLM last year modified for use in Utah. The location needs to be where staked due to topography. Moving it significantly increases estimated location building costs. Water for drilling purposes will be obtained either commercially from Dalbo Incorporated (permit #19-1544) or via an appropriately permitted temporary water well.

For scheduling on-site meeting, please contact Dan Gallagher at (303) 299-1532. Please notify the undersigned of your decision. Thank you for your prompt attention to this matter.

Sincerely,

Donald R. Day
Engineering Manager
Rocky Mountain Division

Attachments

STATE OF UTAH
DIVISION OF OIL, GAS & MINING (OGM)

ON-SITE PREDRILL EVALUATION AND REVIEW

OPERATOR: THE ANSCHUTZ CORPORATION

WELL NO: TEXAS CREEK 14-22 LEASE NO: FEE

API NUMBER: 43 - 047 - 32693 LEASE TYPE: STATE __ FEE Y

PROPOSED LOCATION: C O N F I D E N T I A L

SURFACE: 0465FSL 1363FWL

SURFACE: QTR/QTR: SE/SW SEC: 22 TWP: 11S RNG: 25E

BOTTOM HOLE: 0465FSL 1363FWL

BOTTOM HOLE: QTR/QTR: SE/SW SEC: 22 TWP: 11S RNG: 25E

COUNTY: UINTAH FIELD: CODE/NAME: WILDCAT

GPS COORDINATES: 441600 N 12 661920 E

SURFACE OWNER: CLIFFS SYNFUEL INC. SURFACE AGREEMENT(Y/N): N

LOCATION AND SITING:

Y Plat

Y Bond Sta ____ Fee X

Number: $50,000

N Potash (Y/N)

Y Oil Shale (Y/N)

Y Water Permit 19-1544

RDCC Review Y 16-JUNE-95

___ R649-2-3. Unit: _____

____ R649-3-2. General

X R649-3-3. Exception

___ UCA 40-6-6. Drilling Unit

Cause No: _____

Date: _____

ARCHEOLOGICAL AND PALEONTOLOGY SURVEY RECEIVED: (Y/N) NO

SITE PROBLEMS: NONE.

Onsite Participants:
HAW GALLAGHER AND GARY YOUNG (ANSCHUTZ), DAVID W. HACKFORD(DOGM).

Regional Setting/Topography: SITE IS ON THE NORTHWEST SIDE OF A DRY WATERCOURSE RUNNING NORTHEAST TO SOUTHWEST IN THE BOTTOM OF A BROAD VALLEY. ROCKY SANDSTONE OUTCROPPINGS ON NORTHWEST SIDE OF PROPOSED LOCATION. VERTICAL 60' CLIFFS 600' NORTHWEST OF SITE.

DRILLING PROGRAM:

1. Surface Formation and Estimated Tops/Geologic Markers
   MANCOS - 5050'
   NIOBRARA - 8150'
   DAKOTA SAND - 8725'
   CHINLE - 10370'
   WEBER - 11070'
   TD. - 11400'

2. Estimated Depths of Anticipated Water, Oil, Gas or other Mineral Bearing Zones

Substance	Formation	Depth
Gas/COND	DAKOTA	8725-8915
OIL/GAS/WATER	PHOSPHORIA	10970-11070
OIL/GAS/WATER	WEBER	11070-11200
Other		

   All fresh water sands encountered during drilling shall be recorded and reported to the Division on Form 7.

3. Well Control Equipment & Testing Procedures
   13 5/8" Double gate hydraulic with 13 5/8" annular BOP choke manifold and 13 3/8" x 13 5/8" casing head. Upper and lower Kelly cocks as well as inside BOP will also be available. A 13 5/8" rotating head will also be utilized. All components to be rated to 3000 psi. working pressure. BOP and choke manifold will be installed and pressure tested before drilling out any protective strings of casing, then checked daily for mechanical operating condition. Ram-type preventers and related pressure control equipment will be pressure tested to the pressure of the stack assembly, or 70% of the internal yield of the surface casing, whichever is less. Annular preventer will be pressure tested to 50% of rated working pressure upon installation. BOP and choke manifold pressure rating will exceed the maximum anticipated surface pressure. The choke manifold and BOP extension rods with hand wheels will be located outside of the sub-structure. The hydraulic BOP closing unit will be located at least 25 feet from the wellhead. Exact locations and configurations of BOP equipment will depend upon the rig contracted to drill

4. Proposed Casing and Cementing Program

30"/20"	conductor (.025" WT)	0-80'	80'
17 1/2"/13 3/8"	54.5# J-55 LTC	0-800'	800'
12 1/4"/9 5/8"	40/43.5#N-80/S-95,LTC	0-9000'	9000'
8 1/2"/5 1/2"	17.0#, J-55,LTC	8,600-11,400'	800'

Conductor: Casing will be cemented with approximately 15 yds of Redi-Mix.
Surface: Lead 50:50 poz Cl. G + 2% gel+1/4#/sx. cellophane flakes + 2% CaCl2 449 Cuft. 14.4 ppg 1.16 yield
Tail: Class G + 2% CaCl2 + 1/4#/sx cellophane flakes 272 cu ft. 15.8ppg 1.15 yield
Production: Lead: 85:15 poz:Cl G + 6% gel + 2#/sx fumed silica + 3% salt. 285 cu ft. 15.8ppg 2.15 yield
Tail: Class G 100 cu. ft. 15.8ppg 1.14 yield
Liner: 50:50 Poz:Class G + .6% CF_14A + .2% cf-@ + .2% ft-4 + .15% asa-301 + 3%KCL 900 cu.ft. 14.0ppg 1.30 yield

Note: Actual cement volumes to be determined from caliper log. Cement design may be altered depending on actual bottom hole temperatures and potential producing intervals. A stage cementing tool and/or external casing packers may be run in the event of lost circulation.

5. Mud Program and Circulating Medium - include mud components and weights, when drilling with air also include length and location of blooie line

0-800,	Gel-Lime	8.8-9.0ppg	40sec.	N/C
800-9000'	LSND	8.7-8.9ppg	38-40sec.	6-8
7000-11400	LSND	8.7-8.9ppg	38-40sec.	6-8

Drilling mud inventory (including weight and lost circulation materials) will be stockpiled on location. Supplemental materials will be transported from local warehouses.

6. Coring, Logging, and Testing Program
Logs: DIL-SFL-SP, LDT-CNL-GR-CAL, BHC Sonic-GR-CAL and dipmeter from TD to base of surface casing. DST'S: Potential tests of significant shows as determined by the wellsite geologist.
Coring: Potential cores of the main expected productive zone. Geologist/Mud Logger: A well site geologist will be present from spud to TD. A two man mud logging unit, complete with hot-wire and chromatograph will be operational from spud to TD.

7. Abnormal Conditions, Bottom Hole Pressures and Potential Hazards, also list anticipated lost circulation zones, abnormal temperature zones and possible hydrogen sulfide bearing zones
No abnormal temperatures of pressures are anticipated.

SURFACE USE PLAN:

Current Surface Use: SURFACE IS LEASED TO O.S. WYATT JR. AND IS USED FOR LIVESTOCK GRAZING.

Proposed Surface Disturbance: 0.2 MILES OF NEW ROAD CONSTRUCTION PLUS LOCATION MEASURING 215' BY 300'.

1. Existing Roads:
South of Bonanza, Utah. Go 15.6 miles south on 45. Turn east or left on county road in Park Canyon. Go approximately 1 mile to location road. Turn left and go about 500 feet to location.

2. Planned Access Roads - include length of new road, length of existing road to be upgraded, maximum disturbed and travel surface widths, maximum grades, turnouts, surface materials, drainage, cattleguards
A very short access road is necessary. Location sits approximately 525' from existing road. If necessary, existing road will be improved for drilling traffic. 14' wide road running surface already exists. The access road appears to have adequate drainage. It is anticipated that no culverts will be needed on the existing access road.

3. Location of existing wells within one-mile radius of proposed location, include water, injection, producing, drilling with present status of each well
One abandoned well located in the SE/SW SEC. 22, T11S, R25E. See attached map.

4. Location of Production Facilities and Pipelines
All production facilities should be located on the disturbed portion of the well pad (if off-site treating and storage facilities are required, a Sundry Notice requesting permission will be submitted.)

5. Location and Type of Water Supply (include Division of Water Rights approval or identifying number)
It is anticipated that water well be purchased from Dalbo Incorporated (permit #49-1544) to provide water for drilling operations. Water for human consumption will be hauled from Vernal, Utah.

6. Source of Construction Material
Construction materials should not be needed for well pad construction. Gravel, if necessary, will be obtained from gravel pits in the area. If production is established, any construction materials required for upgrading the access road and installing production facilities will be obtained from existing pits. The appropriate approvals will be obtained prior to the movement of such materials. No new access roads for construction materials will be required.

7. Waste Management Plan
Cuttings: to be deposited in the reserve pit. Drilling fluids: to be contained in the reserve pit and allowed to evaporate. Produced fluids: to be collected in sealable tanks. Any spills of oil, salt water or other noxious fluids will be reported, cleaned-up and removed to an approved site. Sewage: Six bore holes approximately 10 feet deep will be provided for grey-waters disposal. Upon completion of operations, the contents will be covered. Two porta-johns will be on location for human waste. The contents will be pumped and disposed of in a manner consistent with county health regulations. Note: If rock prohibits the drilling of sewage holes, a holding tank may be installed on the edge of the location, downhill of living accommodations. Contents will be pumped and disposed of in a manner consistent with county health regulations. Garbage and other waste material: Garbage will be contained in a trash bin and disposed of at an approved land fill. After the drilling rig moves out, all materials will be cleaned up with no adverse materials left on location.

8. Ancillary Facilities
None.

9. Well Site Layout
See diagram attached. No permanent living facilities are planned. There will be six trailers on location, one each for mud logger, toolpusher, geologist, engineer, mud engineer and rig crews.

10. Surface Restoration Plans
Backfilling, leveling and re-contouring are planned as soon as the pits have dried. Waste and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. Revegetation will be accomplished by planting mixed grasses as per Utah recommendation. The rehabilitation operations will begin after the completion rig is removed. Removal of oil or other adverse substances will begin immediately or area will be flagged and fenced. Other cleanup will be done as needed. Planting and revegetation is considered best in Fall Or Spring, unless requested otherwise.

ENVIRONMENTAL PARAMETERS:

Affected Floodplain and/or Wetlands:
Is a 404 dredge and fill permit required? (Any activity which will change the bottom elevation of the "waters of the United States" including wetlands, natural and artificially created waters, and even some drainages may require a permit from the Army Corps of Engineers) NO FLOODPLAINS OR WETLANDS WILL BE AFFECTED BY THIS SITE OR ACCESS ROAD.

Flora/Fauna:
Briefly describe the flora found on the proposed site and the fauna evidenced or sighted on or near the proposed location
SAGE, GREASEWOOD, SALTBRUSH CHEATGRASS AND OTHER NATIVE GRASSES. DEER, COYOTES, RABBITS, SMALL RODENTS, ANTELOPE, RAPTORS, REPTILES, SMALL SONGBIRDS.

SURFACE GEOLOGY

Soil Type and Characteristics: VERY LIGHT BROWN (NEARLY WHITE) ROCKY SANDY LOAM.

Surface Formation & Characteristics: GREENRIVER FORMATION. SANDSTONE OUTCROPPINGS ADJACENT TO SITE.

Erosion/Sedimentation/Stability: NO SIGN OF EROSION OR SEDIMENTATION AT PRESENT. SHOULD NOT BE A PROBLEM.

Paleontological Potential Observed: NONE OBSERVED

RESERVE PIT

Characteristics: PROPOSED RESERVE PIT WILL BE RECTANGULAR IN SHAPE WITH APPROXIMATE DIMENSIONS OF 150' BY 65' AND 10' DEEP. PIT WILL BE CONSTRUCTED ENTIRELY IN CUT WEST OF WELLBORE.

Lining (Site ranking form attached): A 12 MIL SYNTHETIC LINER WILL BE REQUIRED.

OTHER OBSERVATIONS

Cultural Resources/Archaeology (if proposed location is on State land, has an archaeology clearance been obtained?): THIS SITE IS ON FEE LAND.

Comments: AN OVERHEAD POWER LINE IS LOCATED 450' EAST OF SITE. ACCESS ROAD WILL RUN UNDER THIS LINE AND CARE SHOULD BE TAKEN MOVING IN RIG AND EQUIPMENT.

DAVID W. HACKFORD — 6/16/95. 10:00 AM
OGM Representative — Date and Time

STATEMENTS OF BASIS

OGM Review of Application for Permit to Drill (APD)

ENGINEERING/LOCATION and SITING:

The proposed location meets the location and siting requirements of R649-3-3. The application and proposed casing and drilling plan appear to be consistent with accepted industry standards of practice and sound engineering design. A casing design safety check is attached. Blow out prevention monitoring/contingency plans are adequate.

Signature F. R. Matthews Date 6/19/1995

GEOLOGY/GROUND WATER:

Ground water may be encountered in the upper portion of the Green River Formation. The base of moderately saline water is at approximately 4700 feet. The proposed casing and cement program should adequately protect any fresh water. It is recommended that adequate cement be used on the 9 5/8" casing to bring the cement top above 4700 feet.

Signature D. Jarvis Date 6-19-95

SURFACE:

THE PRE-SITE INVESTIGATION OF THE SURFACE HAS BEEN PERFORMED BY FIELD PERSONNEL. DEFICIENCIES IN THE APD HAVE BEEN ADDRESSED AND THE FIELD REVIEW HAS BEEN COMPLETED ACCORDING TO DIVISION POLICY THE PROPOSED PLAN FOR CONSTRUCTION OF THE LOCATION APPEARS TO BE ENVIRONMENTALLY SOUND. ALL APPLICABLE SURFACE MANAGEMENT AGENCIES AND LAND OWNERS HAVE BEEN NOTIFIED AND THEIR CONCERNS ACCOMMODATED WHERE REASONABLE AND POSSIBLE. A PROPERLY EXECUTED SURFACE AGREEMENT WILL BE IN PLACE BEFORE CONSTRUCTION BEGINS.

Signature DAVID W. HACKFORD Date 6/16/95

STIPULATIONS for APD Approval:

1. THE RESERVE PIT SHALL BE LINED WITH A MINIMUM 12 MIL THICK LINER WITH A PROPER SMOOTH SUPPORTIVE FOUNDATION. LEVEL 1 RANKING.
2. ANY STIPULATIONS OFFERED BY THE RDCC WILL BE COMPLIED WITH
3. A SURFACE OWNERS AGREEMENT WILL BE IN PLACE BEFORE CONSTRUCTION BEGINS.
4. **TO PROTECT THE USDW CEMENT SHOULD BE CIRCULATED TO APPROXIMATELY 4700' ON THE OUT SIDE THE 9 5/8" CASING.**

ATTACHMENTS:

Evaluation Ranking Criteria and Ranking Score
For Reserve and Onsite Pit Liner Requirements

Site-Specific Factors	Ranking Score	Final Ranking Score
Distance to Groundwater (feet)		0
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	
<25 or recharge area	20	
Distance to Surf. Water (feet)		0
>1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200	15	
< 100	20	
Distance to Nearest Municipal Well (feet)		0
>5280	0	
1320 to 5280	5	
500 to 1320	10	
<500	20	
Distance to Other Wells (feet)		0
>1320	0	
300 to 1320	10	
<300	20	
Native Soil Type		20
Low permeability	0	
Mod. permeability	10	
High permeability	20	
Fluid Type		10
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	10	
TDS >10000 or Oil Base Mud	15	
Fluid containing significant levels of hazardous constituents	20	

Drill Cuttings Normal Rock Salt or detrimental	 0 10	0
Annual Precipitation (inches) <10 10 to 20 >20	 0 5 10	0
Affected Populations <10 10 to 30 30 to 50 >50	 0 6 8 10	0
Presence of Nearby Utility Conduits Not Present Unknown Present	 0 10 15	15

Final Score	35

The summation of all of the above ranking scores will yield one value which shall be used to determine the appropriate type of containment, on a case-by-case basis. The sensitivity levels are as follows:

Level I Sensitivity: For scores totaling ≥20
Level II Sensitivity: For scores totaling 15 to 19
Level III Sensitivity: For scores totaling <15

Containment Requirements According to Sensitivity Level

Level I: Requires total containment by synthetic liner, concrete structure or other type of total containment structure or material.

Level II: Bentonite or other compatible lining is discretionary depending on the fluid to be contained and environmental sensitivity.

Level III: No specific lining requirements.

OTHER GUIDELINES FOR PITS

1. Unlined pits shall not be constructed on areas of fill materials.

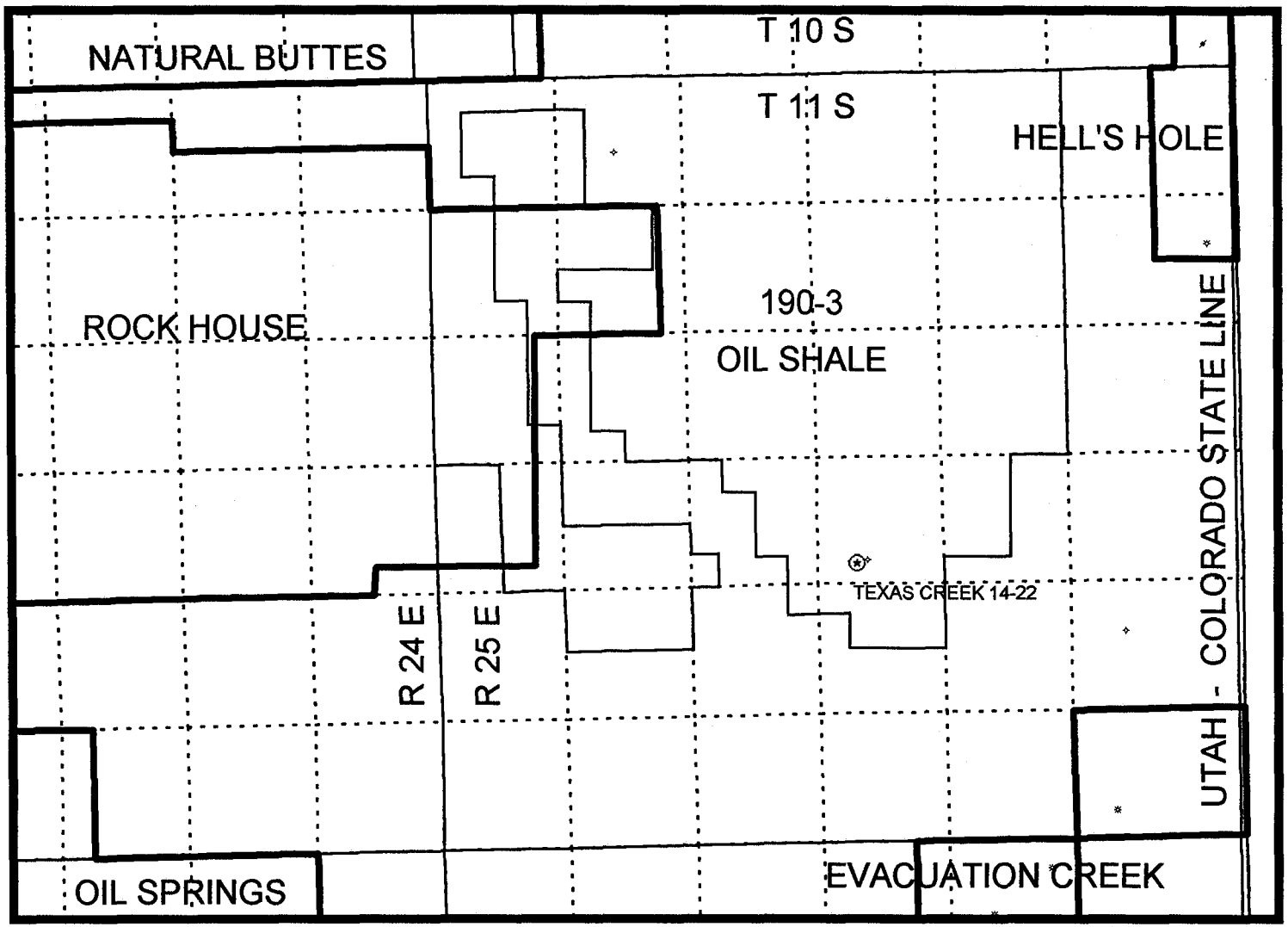
2. A pit shall not be constructed in a drainages or floodplain of flowing or intermittent streams.

3. Synthetic liners used for lining reserve pits, shall be of 12 mil thickness or greater and shall be compatible with the fluid to be contained. Synthetic liners used for lining onsite pits with a longer expected life shall be a minimum of 30 mil thickness or as approved by the Division.

4. Synthetic liners shall be installed over smooth fill material which is free of pockets, loose rocks or other materials which could damage the liner.

5. Monitoring systems for pits or closed mud systems may be required for drilling in sensitive areas.

ANSCHUTZ CORPORATION
TEXAS CREEK 14-22 SEC. 22, T11S, R25E,
UINTAH COUNTY, OIL SHALE, NO SPACING



STATE OF UTAH
DIVISION OF OIL, GAS & MINING

DATE: 06/16/95

STATE OF UTAH

Operator: ANSCHUTZ CORPORATION	Well Name: TEXAS CREEK 14-22
Project ID: 43-047-32693	Location: SEC. 22 - T11S - R25E

Design Parameters:

Mud weight (8.90 ppg) : 0.462 psi/ft
Shut in surface pressure : 3403 psi
Internal gradient (burst) : 0.084 psi/ft
Annular gradient (burst) : 0.000 psi/ft
Tensile load is determined using buoyed weight
Service rating is "Sweet"

Design Factors:

Collapse : 1.125
Burst : 1.00
8 Round : 1.80 (J)
Buttress : 1.60 (J)
Other : 1.50 (J)
Body Yield : 1.50 (B)

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	5,000	9.625	40.00	N-80	LT&C	5,000	8.750	
2	1,000	9.625	43.50	N-80	LT&C	6,000	8.625	
3	3,000	9.625	43.50	S-95	LT&C	9,000	8.625	

	Collapse Load (psi)	Collapse Strgth (psi)	Collapse S.F.	Burst Load (psi)	Min Int Yield Strgth (psi)	Burst S.F.	Tension Load (kips)	Tension Strgth (kips)	Tension S.F.
1	2312	2919	1.263	3824	5750	1.50	323.10	737	2.28 J
2	2774	3676	1.325	3908	6330	1.62	150.32	825	5.49 J
3	4161	5600	1.346	4161	7510	1.80	112.74	959	8.51 J

Prepared by : MATTHEWS, Salt Lake City, UT
Date : 06-21-1995
Remarks :

Minimum segment length for the 9,000 foot well is 1,000 feet.
SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas temperature of 119°F (Surface 74°F , BHT 164°F & temp. gradient 1.000°/100 ft.)
The mud gradient and bottom hole pressures (for burst) are 0.462 psi/ft and 4,161 psi, respectively.

NOTE: The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1987 pricing model. (Version 1.06)

STATE OF UTAH

Operator: ANSCHUTZ CORPORATION	Well Name: TEXAS CREEK 14-22
Project ID: 43-047-32693	Location: SEC. 22 - T11S - R25E

Design Parameters:

Mud weight (8.90 ppg) : 0.462 psi/ft
Shut in surface pressure : 4106 psi
Internal gradient (burst) : 0.102 psi/ft
Annular gradient (burst) : 0.000 psi/ft
Tensile load is determined using buoyed weight
Service rating is "Sweet"
*** WARNING *** Design factor for collapse exceeded in design!

Design Factors:

Collapse : 1.125
Burst : 1.00
8 Round : 1.80 (J)
Buttress : 1.60 (J)
Other : 1.50 (J)
Body Yield : 1.50 (B)

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	2,800	5.500	17.00	J-55	LT&C	11,400	4.767	

	Collapse Load (psi)	Collapse Strgth (psi)	Collapse S.F.	Burst Load (psi)	Min Int Yield Strgth (psi)	Burst S.F.	Tension Load (kips)	Tension Strgth (kips)	Tension S.F.
1	5271	4910	0.932	5271	5320	1.01	41.12	247	6.01 J

Prepared by : MATTHEWS, Salt Lake City, UT
Date : 06-21-1995
Remarks :

Minimum segment length for the 11,400 foot well is 1,000 feet.
SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas temperature of 131°F (Surface 74°F , BHT 188°F & temp. gradient 1.000°/100 ft.)
The liner string design has a specified top of 8,600 feet.
The burst load shown is the pressure at the bottom of the segment.
The mud gradient and bottom hole pressures (for burst) are 0.462 psi/ft and 5,271 psi, respectively.

NOTE: The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1987 pricing model. (Version 1.06)

Collapse on liner will be ok since it will be cemented. Collapse can be lower than one as long as casing is covered by cement.

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

June 21, 1995

Anschutz Exploration Corporation
555 17th Street, Suite 2400
Denver, Colorado 80202

Re: Texas Creek #14-22 Well, 465' FSL, 1363' FWL, SE SW, Sec. 22, T. 11 S., R. 25 E., Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-32693.

Sincerely,

R. J. Firth
Associate Director

ldc
Enclosures
cc: Uintah County Assessor
Bureau of Land Management, Vernal District Office
WAPD

Operator: Anschutz Exploration Corporation

Well Name & Number: Texas Creek #14-22

API Number: 43-047-32693

Lease: Fee

Location: SE SW **Sec.** 22 **T.** 11 S., **R.** 25 E.

Conditions of Approval

1. General

   Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

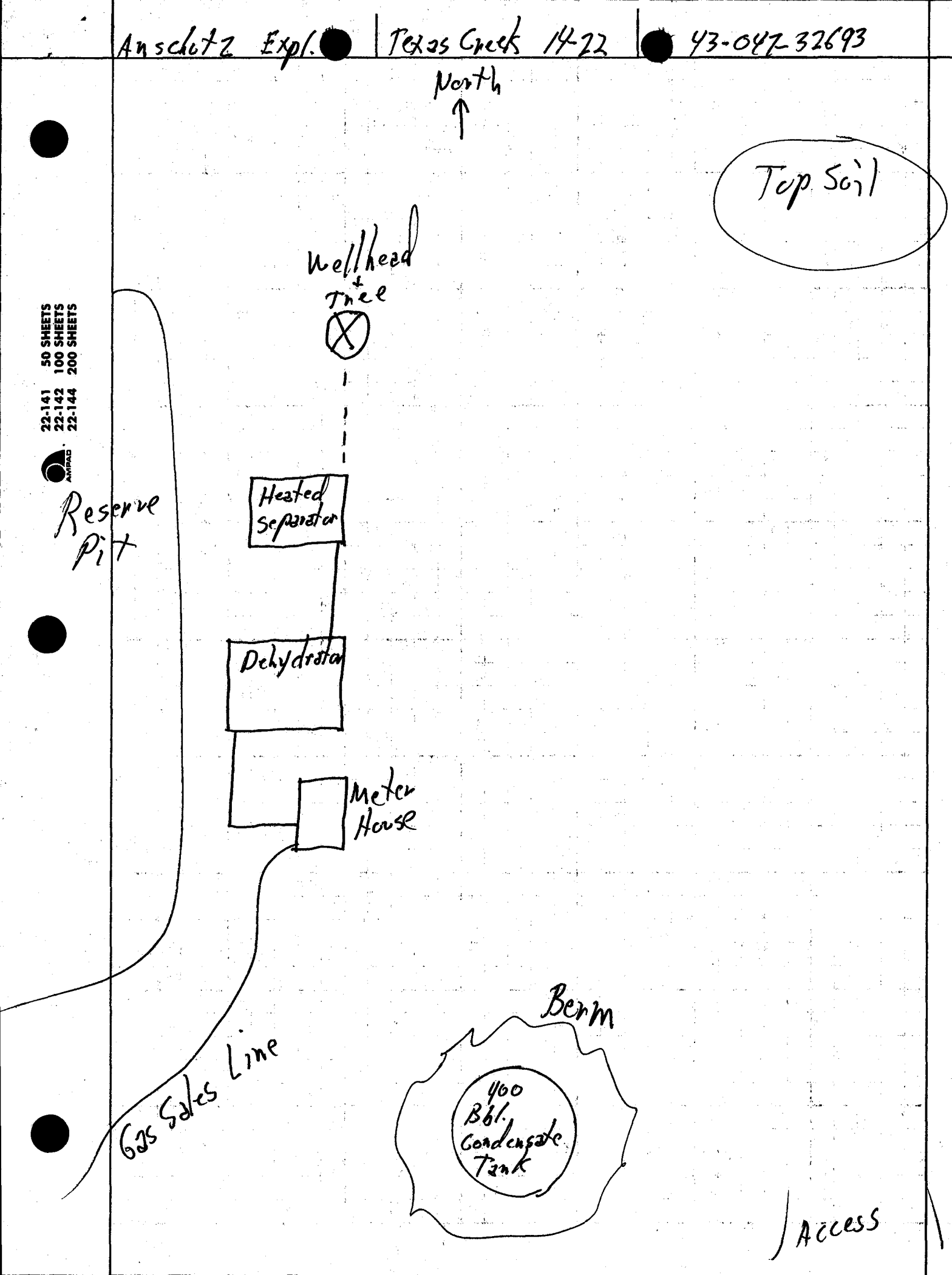
   Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5340.

   Notify the Division prior to commencing operations to plug and abandon the well. Contact Frank Matthews or Mike Hebertson at (801)538-5340.

3. Reporting Requirements

   All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

Anschutz Expl. | Texas Creek 14-22 | 43-047-32693



KMH

STATE ACTIONS

Mail to:
RDCC Coordinator
116 State Capitol
Salt Lake City, Utah 84114

1. ADMINISTERING STATE AGENCY
OIL, GAS AND MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

2. STATE APPLICATION IDENTIFIER NUMBER:
(assigned by State Clearinghouse)

3. APPROXIMATE DATE PROJECT WILL START:
Upon Approval

4. AREAWIDE CLEARING HOUSE(s) RECEIVING STATE ACTIONS:
(to be sent out by agency in block 1)
Uintah Basin Association of Governments

5. TYPE OF ACTION: /_/ Lease /X/ Permit /_/ License /_/ Land Acquisition
/_/ Land Sale /_/ Land Exchange /_/ Other _____

6. TITLE OF PROPOSED ACTION:
Application for Permit to Drill

7. DESCRIPTION:
Anschutz Exploration Corporation proposes to drill a wildcat well, the Texas Creek #14-22 well on a private lease in Uintah County, Utah. This action is being presented to RDCC for consideration of resource issues affecting state interests. The DOGM is the primary administrative agency in this case and must issue approval to drill before operations can commence.

8. LAND AFFECTED (site location map required) (indicate county)
SE/4, SW/4, Section 22, Township 11 South, Range 25 East, Uintah County, Utah

9. HAS THE LOCAL GOVERNMENT(s) BEEN CONTACTED?
Unknown

10. POSSIBLE SIGNIFICANT IMPACTS LIKELY TO OCCUR:
No significant impacts are likely to occur

11. NAME AND PHONE NUMBER OF DISTRICT REPRESENTATIVE FROM YOUR AGENCY NEAR PROJECT SITE, IF APPLICABLE:

12. FOR FURTHER INFORMATION, CONTACT:
Frank R. Matthews
PHONE: 538-5340

13. SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL
Frank R. Matthews
DATE: 6-28-95
Petroleum Engineer

WOI152

UT 950630-040

THE ANSCHUTZ CORPORATION

2400 ANACONDA TOWER · 555 SEVENTEENTH STREET · DENVER, COLORADO 80202 · 303-298-1000 · FAX 303-298-8881

FACSIMILE COVER SHEET

PLEASE DELIVER THE FOLLOWING PAGES

TO: Mike Heharton *NUMBER:* 801-359-3940

TO: _____ *NUMBER:* _____

TO: _____ *NUMBER:* _____

TO: _____ *NUMBER:* _____

FROM: Don Day

DATE: 7-10-95

YOU WILL RECEIVE 3 *PAGES OF COPY - INCLUDING THIS COVER LETTER.*

WE ARE TRANSMITTING FROM A PANAFAX UF 260 FACSIMILE MACHINE. OUR DIRECT FAX NUMBER IS (303) 298-8881.

IF YOU HAVE ANY PROBLEMS WITH RECEIPT, PLEASE CALL AS SOON AS POSSIBLE. OUR TELEPHONE NUMBER IS (303) 298-1000.

CONTACT PERSON: Don Day *EXT:* 324

COMMENTS: Mike — here is fax of Swaney - Hard copy to follow in mail.

Thanks.

Don Day

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

8. Well Name and Number: Texas Creek 14-22

1. Type of Well: OIL [X] GAS [ ] OTHER:

9. API Well Number: 43-047-32693

2. Name of Operator: Anschutz Exploration Corporation

10. Field and Pool, or Wildcat: Wildcat

3. Address and Telephone Number: 555 Seventeenth Street, Suite 2400, Denver, CO 80202 303-298-1000

4. Location of Well
Footages: 465' FSL & 1363' FWL
QQ, Sec., T., R., M.: SESW Section 22, T11S, R25E

County: Uintah
State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
[ ] Abandon	[ ] New Construction	[ ] Abandon *	[ ] New Construction
[ ] Repair Casing	[ ] Pull or Alter Casing	[ ] Repair Casing	[ ] Pull or Alter Casing
[ ] Change of Plans	[ ] Recomplete	[ ] Change of Plans	[ ] Reperforate
[ ] Convert to Injection	[ ] Reperforate	[ ] Convert to Injection	[ ] Vent or Flare
[ ] Fracture Treat or Acidize	[ ] Vent or Flare	[ ] Fracture Treat or Acidize	[ ] Water Shut-Off
[ ] Multiple Completion	[ ] Water Shut-Off	[ ] Other	
[X] Other location size increase			
Approximate work will start 7-10-95		Date of work completion	

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

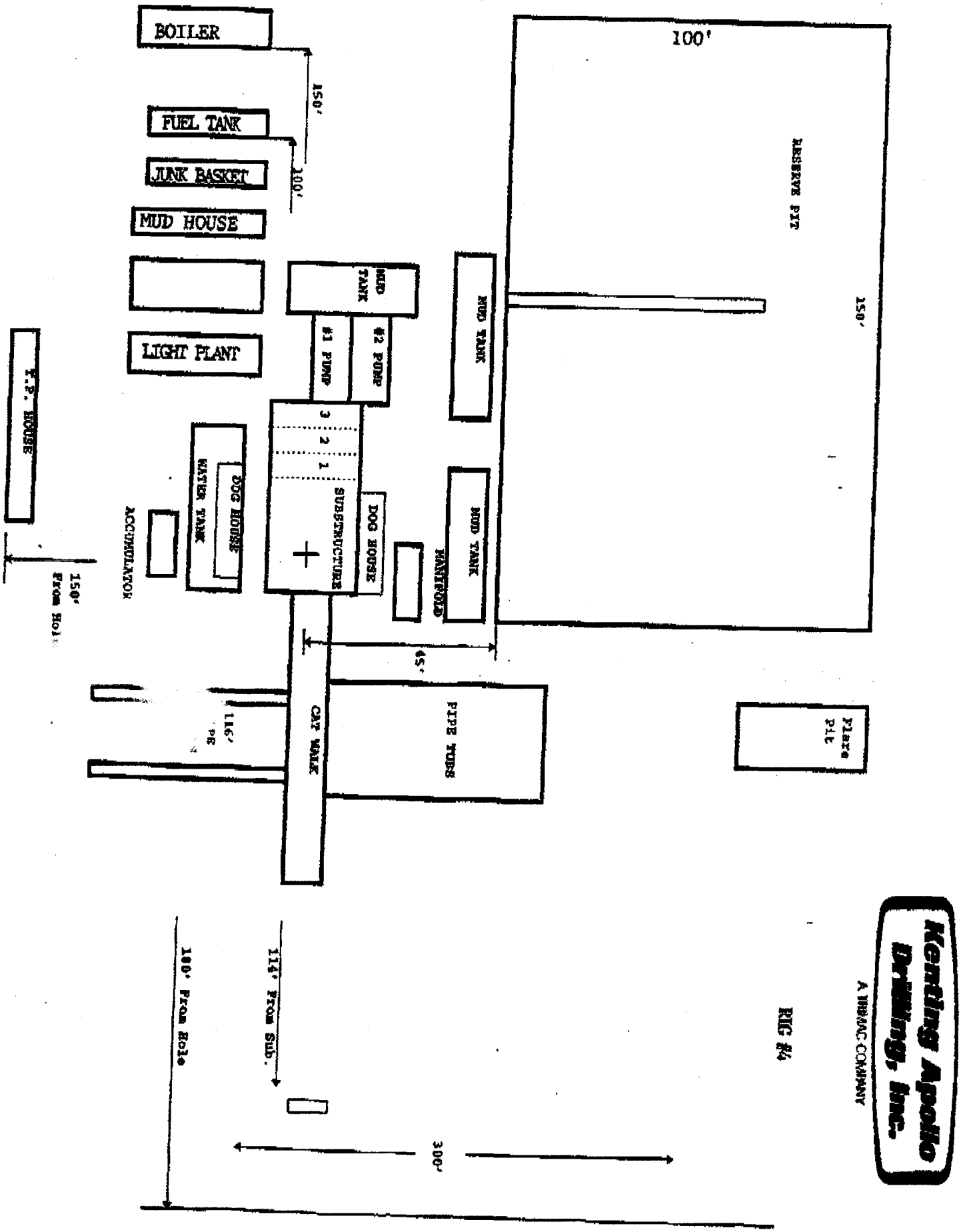
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Due to selecting a larger rig than anticipated, which was required due to the weight of the intermediate casing required, the location size needs to increase from 300' x 215' to 330' x 300'. A rig layout is attached.

13. Name & Signature: Donald R. Day Donald R. Day Title: Engineering Manager-RMD Date: 7/10/95

(This space for State use only)

(4\94) (See Instructions on Reverse Side)


BOILER
150'
FUEL TANK
100'
JUNK BASKET
MUD HOUSE
LIGHT PLANT
MUD TANK
#1 PUMP
#2 PUMP
MUD TANK
100'
RESERVE PIT
150'
3
2
1
SUBSTRUCTURE
DOG HOUSE
WATER TANK
DOG HOUSE
ACCUMULATOR
150' From Hole
MUD TANK
MANIFOLD
45'
CAT WALK
PIPE TUBS
116'
Flare Pit
180' From Hole
114' From Sub.
300'
RIG #4
Kenting Apollo Drilling, Inc.
A TIBMAC COMPANY

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

RECEIVED
JUL 13 1995
DIV OF OIL, GAS & MINING

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☒ GAS ☐ OTHER:

8. Well Name and Number: Texas Creek 14-22

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 Seventeenth Street, Suite 2400, Denver, CO 80202 303-298-1000

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well
Footages: 465' FSL & 1363' FWL
QQ, Sec.,T.,R.,M.: SESW Section 22, T11S, R25E

County: Uintah
State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- ☐ Abandon
- ☐ Repair Casing
- ☐ Change of Plans
- ☐ Convert to Injection
- ☐ Fracture Treat or Acidize
- ☐ Multiple Completion
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Recomplete
- ☐ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off
- ☒ Other location size increase

Approximate date work will start 7-10-95

SUBSEQUENT REPORT
(Submit Original Form Only)

- ☐ Abandon *
- ☐ Repair Casing
- ☐ Change of Plans
- ☐ Convert to Injection
- ☐ Fracture Treat or Acidize
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off

Date of work completion

Report results of **Multiple Completions** and **Recompletions** to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

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Name & Signature: Donald R. Day Donald R. Day Title: Engineering Manager-RMD Date: 7/10/95

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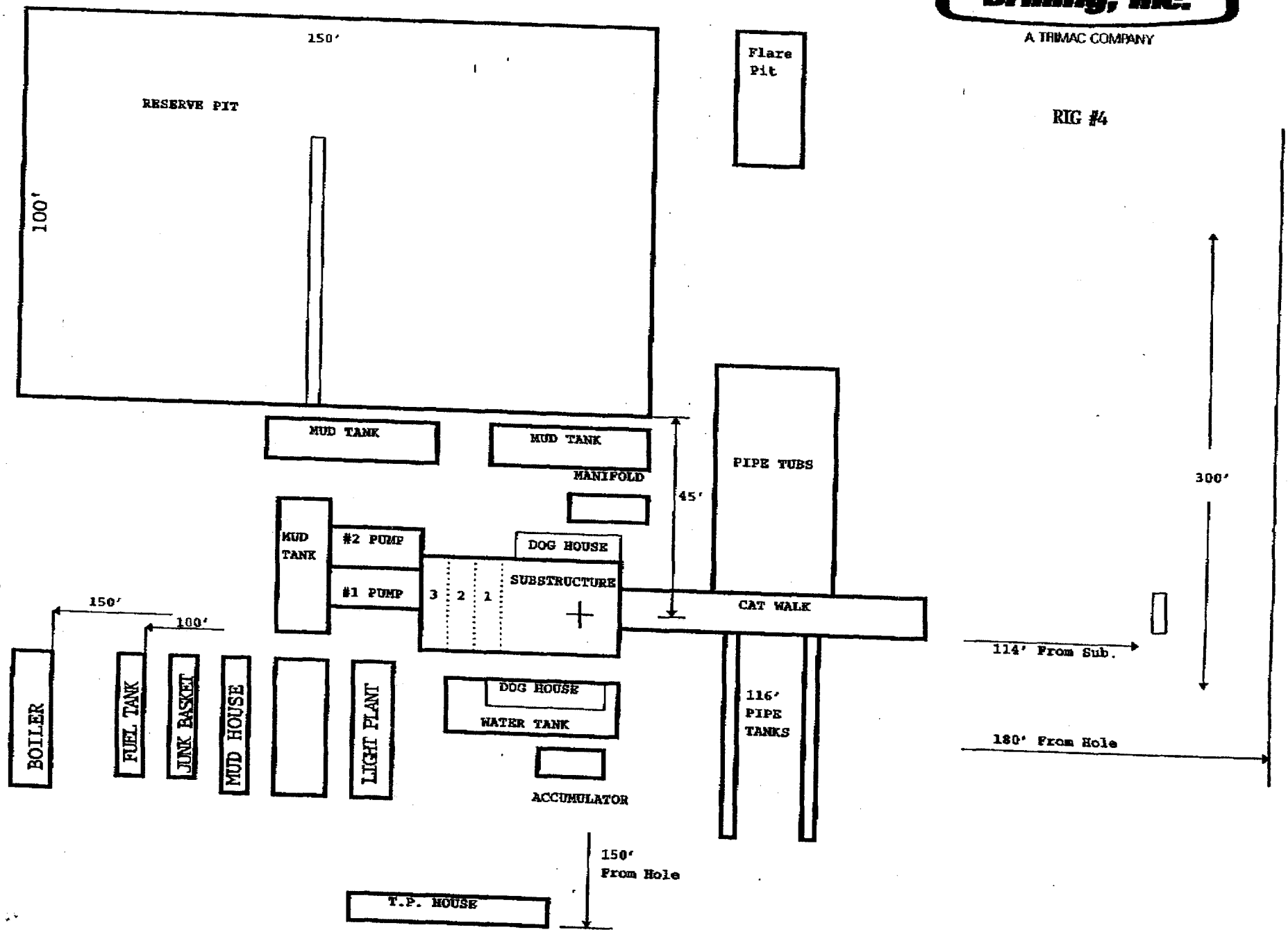
(4\94)

(See Instructions on Reverse Side)

Kenting Apollo Drilling, Inc.

A TRIMAC COMPANY

RIG #4



FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

RECEIVED
JUL 13 1995
DIV. OF OIL, GAS & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

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5. Lease Designation and Serial Number:

6. Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number: Texas Creek 14-22

1. Type of Well: OIL ☒ GAS ☐ OTHER:

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 Seventeenth Street, Suite 2400, Denver, CO 80202 303-298-1000

10. Field and Pool, or Wildcat: Wildcat

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QQ, Sec.,T.,R.,M.: SESW Section 22, T11S, R25E

County: Uintah
State: Utah

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(Submit in Duplicate)

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- ☐ Repair Casing
- ☐ Change of Plans
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- ☐ Fracture Treat or Acidize
- ☐ Multiple Completion
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Recomplete
- ☐ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off
- ☒ Other location size increase

Approximate date work will start 7-10-95

SUBSEQUENT REPORT
(Submit Original Form Only)

- ☐ Abandon *
- ☐ Repair Casing
- ☐ Change of Plans
- ☐ Convert to Injection
- ☐ Fracture Treat or Acidize
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off
- ☐ Other

Date of work completion

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Due to selecting a larger rig than anticipated, which was required due to the weight of the intermediate casing required, the location size needs to increase from 300' x 215' to 330' x 300'. A rig layout is attached.

13.
Name & Signature: Donald R. Day Donald R Day Title: Engineering Manager-RMD Date: 7/10/95

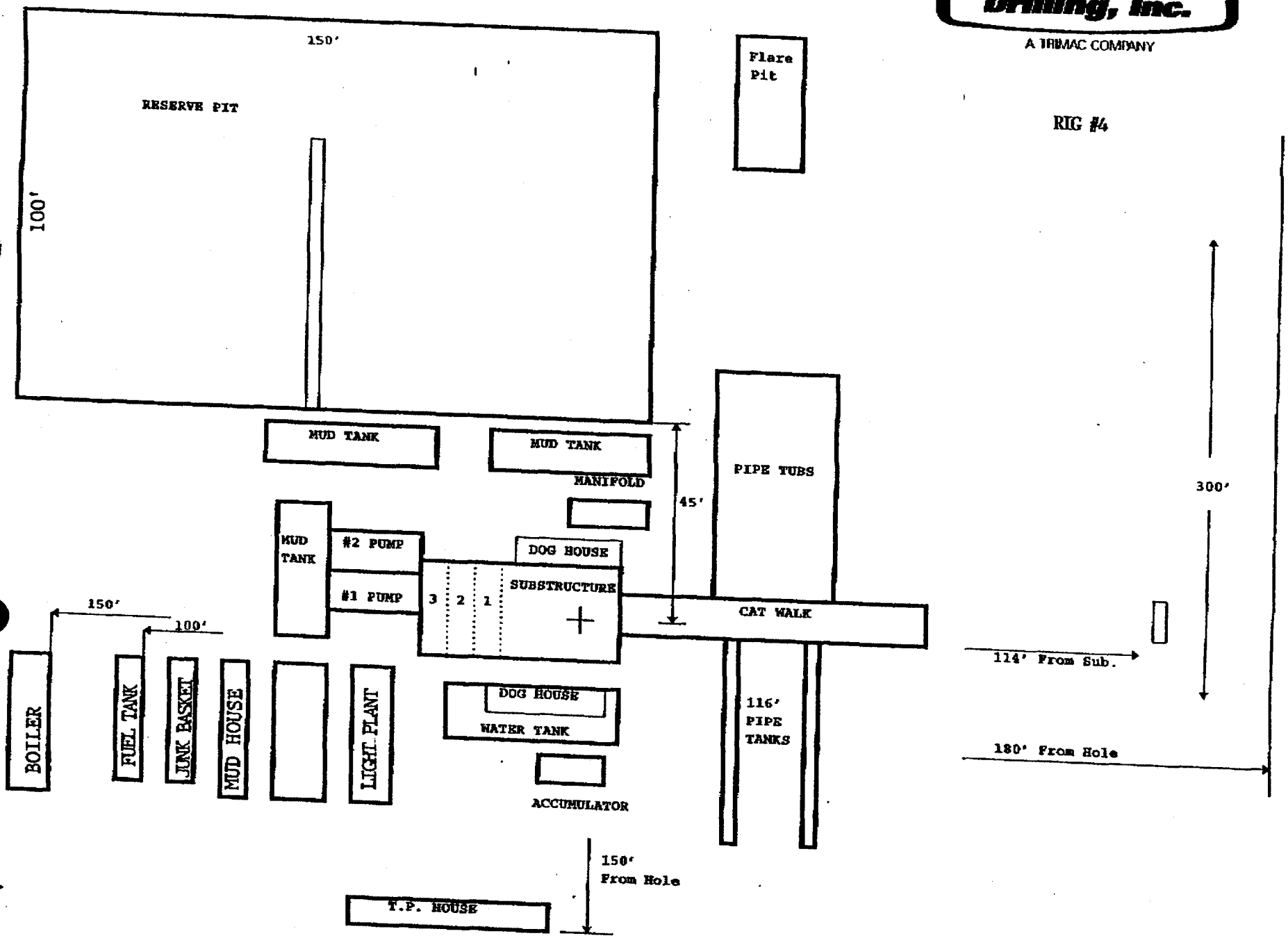
(This space for State use only)

(4\94)

(See Instructions on Reverse Side)

Kenting Apollo Drilling, Inc.
A TRIMAC COMPANY

RIG #4



CONFIDENTIAL

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: ANSCHUTZ CORP.

Well Name: TEXAS CREEK 14-22

Api No. 43-047-32693

Section 22 Township 11S Range 25E County UINTAH

Drilling Contractor APPOLLO

Rig # 4

SPUDDED: Date 7/18/95

Time

How ROTARY

Drilling will commence

Reported by D. HACKFORD-DOGM

Telephone #

Date: 7/17/95 Signed: JLT

****
** WELL TEST DATA PRINTOUT **
****

COMPANY: ANSCHUTZ EXPLORATION CORP. FIELD REPORT NO. 142562
WELL: TEXAS CREEK #14-22 INSTRUMENT NO. J-290

RECORDER CAPACITY: 9000 PSI PORT OPENING: OUTSIDE DEPTH: 11255 FT
TEMPERATURE: 240 DEG F

LABEL POINT INFORMATION
****

#	TIME OF DAY HH:MM:SS	DATE DD-MMM	EXPLANATION	ELAPSED TIME,MIN	BOT HOLE PRESSURE PSIA
1	22:32:16	19-SEP	HYDROSTATIC MUD	-2.74	5429
2	22:35:01	19-SEP	START FLOW	0.01	108
3	22:50:10	19-SEP	END FLOW & START SHUT-IN	15.16	108
4	23:21:24	19-SEP	END SHUT-IN	46.40	126
5	23:21:52	19-SEP	START FLOW	46.86	97
6	1:20:04	20-SEP	END FLOW & START SHUT-IN	165.07	102
7	5:24:26	20-SEP	END SHUT-IN	409.43	154
8	5:25:08	20-SEP	HYDROSTATIC MUD	410.14	5406

SUMMARY OF FLOW PERIODS
****

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	INITIAL PRESSURE PSIA
1	0.01	15.16	15.15	108	108	108
2	46.86	165.07	118.21	97	102	97

SUMMARY OF SHUTIN PERIODS
****

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	15.16	46.40	31.24	108	126	108	15.15
2	165.07	409.43	244.36	102	154	102	133.36

TEST PHASE: FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
22:35:01	19-SEP	0.01	0.00	108
22:50:10	19-SEP	15.16	15.15	108

TEST PHASE: SHUTIN PERIOD # 1 FINAL FLOW PRESSURE = 108 PSIA
PRODUCING TIME = 15.15 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
22:50:10	19-SEP	15.16	0.00	108	0	
22:52:42	19-SEP	17.70	2.54	94	-13	0.8429
22:54:47	19-SEP	19.78	4.62	94	-13	0.6314
22:56:53	19-SEP	21.88	6.72	97	-11	0.5125
22:59:20	19-SEP	24.33	9.17	99	-9	0.4236
23:01:43	19-SEP	26.71	11.55	103	-5	0.3639
23:04:12	19-SEP	29.20	14.04	103	-5	0.3179
23:06:37	19-SEP	31.62	16.46	103	-5	0.2834
23:08:43	19-SEP	33.71	18.55	108	0	0.2593
23:11:06	19-SEP	36.10	20.94	114	6	0.2364
23:13:28	19-SEP	38.46	23.30	117	9	0.2175
23:15:44	19-SEP	40.74	25.58	120	12	0.2020
23:18:19	19-SEP	43.32	28.16	123	15	0.1870
23:21:02	19-SEP	46.04	30.88	125	17	0.1734
23:21:24	19-SEP	46.40	31.24	126	18	0.1717

TEST PHASE: FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
23:21:52	19-SEP	46.86	0.00	97
23:37:22	19-SEP	62.37	15.51	97
23:53:50	19-SEP	78.83	31.97	97
0:10:22	20-SEP	95.36	48.50	98
0:25:59	20-SEP	110.98	64.12	98
0:43:13	20-SEP	128.22	81.36	98
0:58:44	20-SEP	143.74	96.88	99
1:15:44	20-SEP	160.74	113.88	97
1:20:04	20-SEP	165.07	118.21	102

TEST PHASE: SHUTIN PERIOD # 2 FINAL FLOW PRESSURE = 102 PSIA
PRODUCING TIME = 133.36 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
1:20:04	20-SEP	165.07	0.00	102	0	
1:22:40	20-SEP	167.66	2.59	84	-17	1.7201

TEST PHASE: SHUTIN PERIOD # 2 FINAL FLOW PRESSURE = 102 PSIA
PRODUCING TIME = 133.36 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
1:25:19	20-SEP	170.32	5.25	84	-17	1.4216
1:28:11	20-SEP	173.19	8.12	84	-17	1.2411
1:31:02	20-SEP	176.04	10.97	84	-17	1.1192
1:33:38	20-SEP	178.64	13.57	84	-18	1.0345
1:36:36	20-SEP	181.60	16.53	84	-18	0.9575
1:39:27	20-SEP	184.45	19.38	84	-18	0.8966
1:42:37	20-SEP	187.61	22.54	86	-16	0.8399
1:45:28	20-SEP	190.46	25.39	89	-13	0.7961
1:48:12	20-SEP	193.20	28.13	90	-11	0.7590
1:51:11	20-SEP	196.18	31.11	92	-9	0.7232
1:58:58	20-SEP	203.97	38.90	94	-8	0.6462
2:05:18	20-SEP	210.30	45.23	96	-6	0.5964
2:11:32	20-SEP	216.53	51.46	97	-5	0.5553
2:17:46	20-SEP	222.77	57.70	99	-3	0.5200
2:23:54	20-SEP	228.90	63.83	102	0	0.4899
2:29:30	20-SEP	234.50	69.43	105	4	0.4655
2:35:17	20-SEP	240.29	75.22	107	5	0.4429
2:41:14	20-SEP	246.24	81.17	111	9	0.4221
2:47:22	20-SEP	252.37	87.30	111	9	0.4027
2:53:07	20-SEP	258.11	93.04	112	10	0.3862
2:59:33	20-SEP	264.55	99.48	114	13	0.3693
3:05:50	20-SEP	270.84	105.77	114	13	0.3543
3:12:16	20-SEP	277.27	112.20	114	13	0.3402
3:18:58	20-SEP	283.96	118.89	116	14	0.3267
3:25:34	20-SEP	290.56	125.49	119	17	0.3144
3:32:19	20-SEP	297.32	132.25	122	20	0.3028
3:38:59	20-SEP	303.99	138.92	122	20	0.2923
3:45:04	20-SEP	310.06	144.99	124	22	0.2833
3:51:18	20-SEP	316.30	151.23	125	23	0.2746
3:58:01	20-SEP	323.01	157.94	127	25	0.2658
4:04:32	20-SEP	329.54	164.47	128	26	0.2579
4:10:50	20-SEP	335.83	170.76	129	28	0.2507
4:17:08	20-SEP	342.13	177.06	130	28	0.2438
4:23:23	20-SEP	348.38	183.31	133	31	0.2374
4:40:44	20-SEP	365.74	200.67	136	35	0.2213
4:58:27	20-SEP	383.45	218.38	142	40	0.2070
5:13:34	20-SEP	398.57	233.50	147	45	0.1962
5:24:26	20-SEP	409.43	244.36	154	52	0.1891

REPORT NO. 142562

PAGE NO. 1

TEST DATE: 19-SEP-1995

S T A R

Schlumberger Testing Data Report

Pressure Data Report

Schlumberger

COMPANY: ANSCHUTZ EXPLORATION CORP.

WELL: TEXAS CREEK #14-22

TEST IDENTIFICATION

Test Type	MFE-OH
Test No.	1
Formation	WEBER
Test Interval (ft)	11229 to 11307
Depth Reference	KB

WELL LOCATION

Field	WC
County	UINTAH
State	UTAH
Sec/Twn/Rng	S22T11SR25E
Elevation (ft)	

HOLE CONDITIONS

Total Depth (MD/TVD) (ft)	11307
Hole Size (in)	8.5
Casing/Liner I.D. (in)	
Perf'd Interval/Net Pay (ft)	/ 78
Shot Density/Diameter (in)	

MUD PROPERTIES

Mud Type	LSND
Mud Weight (lb/gal)	9.3
Mud Resistivity (ohm.m)	
Filtrate Resistivity (ohm.m)	7.964 @ 68F
Filtrate Chlorides (ppm)	700

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi)	5428.86
Gas Cushion Type	
Surface Pressure (psi)	
Liquid Cushion Type	
Cushion Length (ft)	

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D. (in)	11185 / 2.375
Collar Length (ft)/I.D. (in)	0 / 2.375
Packer Depths (ft)	11224,11229,
Bottomhole Choke Size (in)	.92
Gauge Depth (ft)/Type	11255/J-290

NET PIPE RECOVERY

Volume	Fluid Type	Properties
240 ft	DRILLING MUD	Rw7.964@68F 700ppm

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
.00049 cuft	Gas	
2450 cc	Mud	Rw8.0@68F 700ppm
Pressure: .75	GOR: 0	GLR: 0

INTERPRETATION RESULTS

Model of Behavior	
Fluid Type Used for Analysis	
Reservoir Pressure (psi)	
Transmissibility (md.ft/cp)	
Effective Permeability (md)	
Skin Factor/Damage Ratio	
Storativity Ratio, Omega	
Interporos.Flow Coef..Lambda	
Distance to an Anomaly (ft)	
Radius of Investigation (ft)	
Potentiometric Surface (ft)	

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API)	
Basic Solids (%)	
Gas Gravity	
GOR (scf/STB)	
Water Cut (%)	
Viscosity (cp)	
Total Compressibility (1/psi)	
Porosity (%)	5
Reservoir Temperature (F)	240
Form.Vol.Factor (bbl/STB)	

PRODUCTION RATE DURING TEST: Data Report

COMMENTS:

This drill stem test was mechanically successful.

Thank you for using Schlumberger. For questions about this report please call the Testing district.

WELL TEST INTERPRETATION REPORT #:142562 CLIENT : ANSCHUTZ EXPLORATION CORP.		PAGE: 2, 21-SEP-95
REGION :WESTERN DISTRICT:VERNAL BASE :DENVER ENGINEER:M. MCCURDY	SEQUENCE OF EVENTS	FIELD:WC ZONE :WEBER WELL :TEX. CR. 14-22 LOCATION:S22T11SR25E

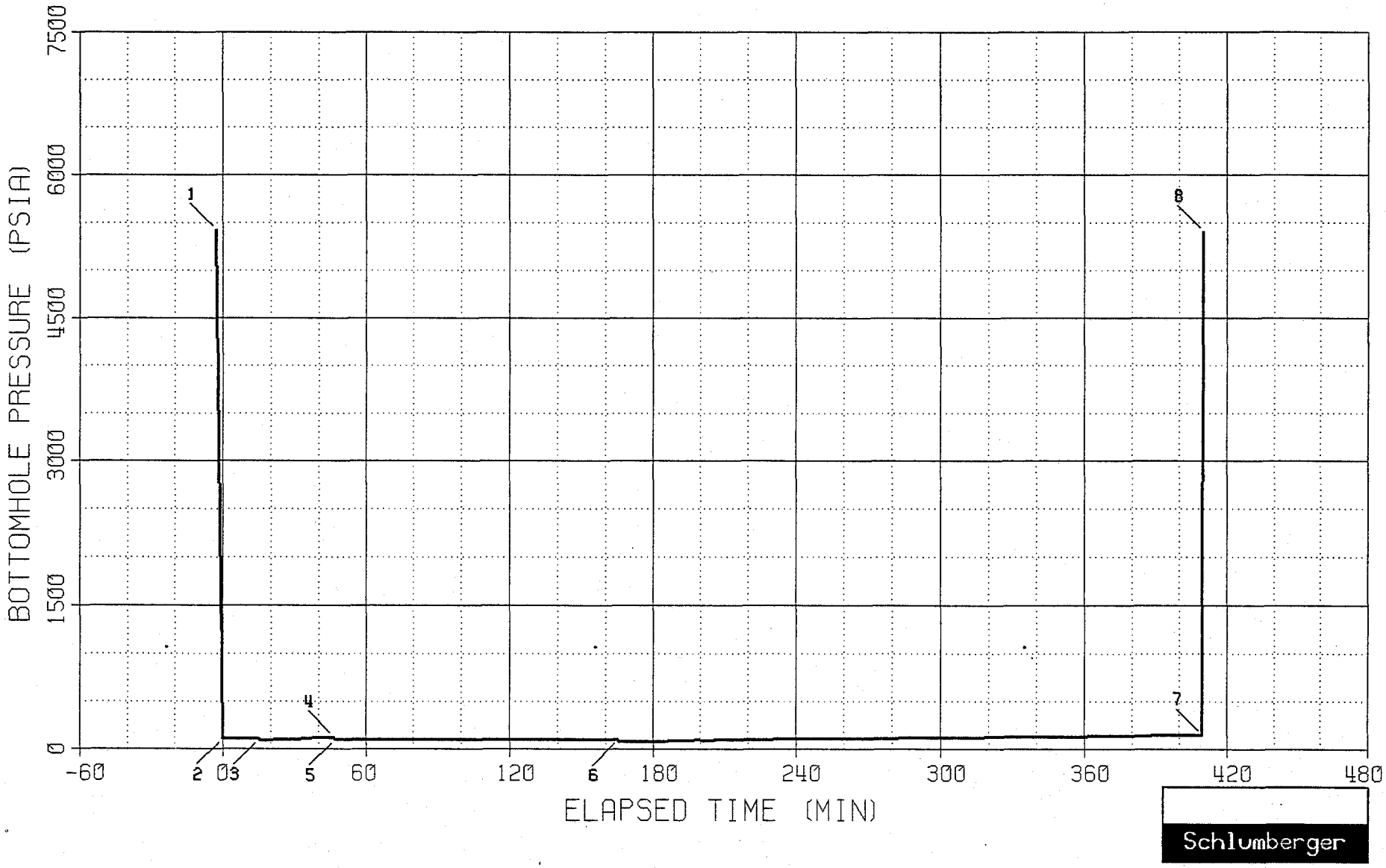
DATE	TIME (HR:MIN)	DESCRIPTION	ET (MINS)	BHP (PSIA)	WHP (PSIG)
19-SEP	22:35	HYDROSTATIC MUD-SET PACKER	0	5429	
	22:35	START FLOW	0	108	
	22:51	END FLOW & START SHUT-IN	16	108	
	23:22	END SHUT-IN	47	126	
	23:23	START FLOW	48	97	
20-SEP	01:20	END FLOW & START SHUT-IN	165	102	
	05:24	END SHUT-IN	409	154	
	05:25	HYDROSTATIC MUD	410	5406	

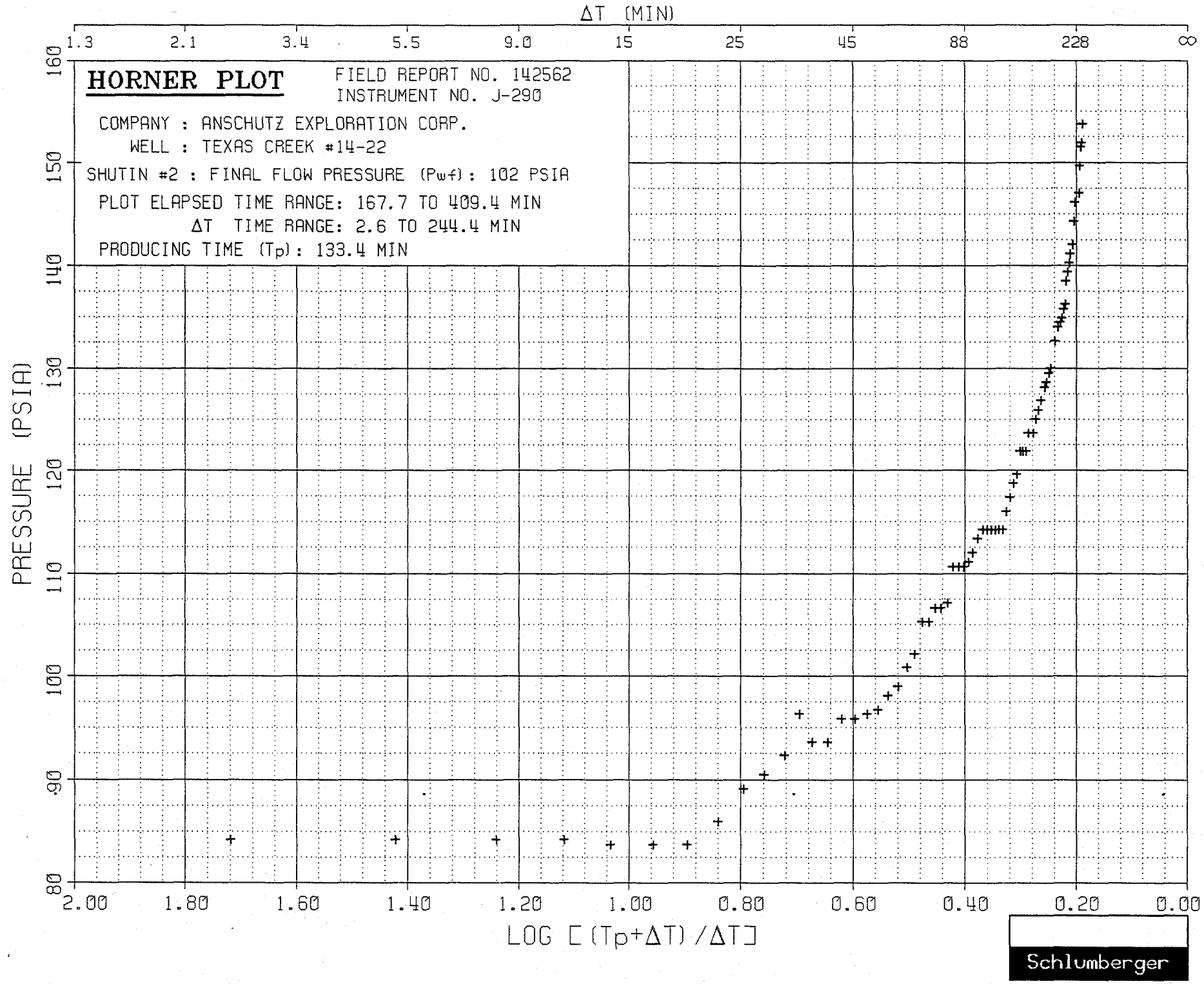
BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 142562
INSTRUMENT NO. J-290
DEPTH : 11255 FT
CAPACITY : 9000 PSI
PORT OPENING : OUTSIDE

COMPANY : ANSCHUTZ EXPLORATION CORP.
WELL : TEXAS CREEK #14-22

Mechanical Recorder Data

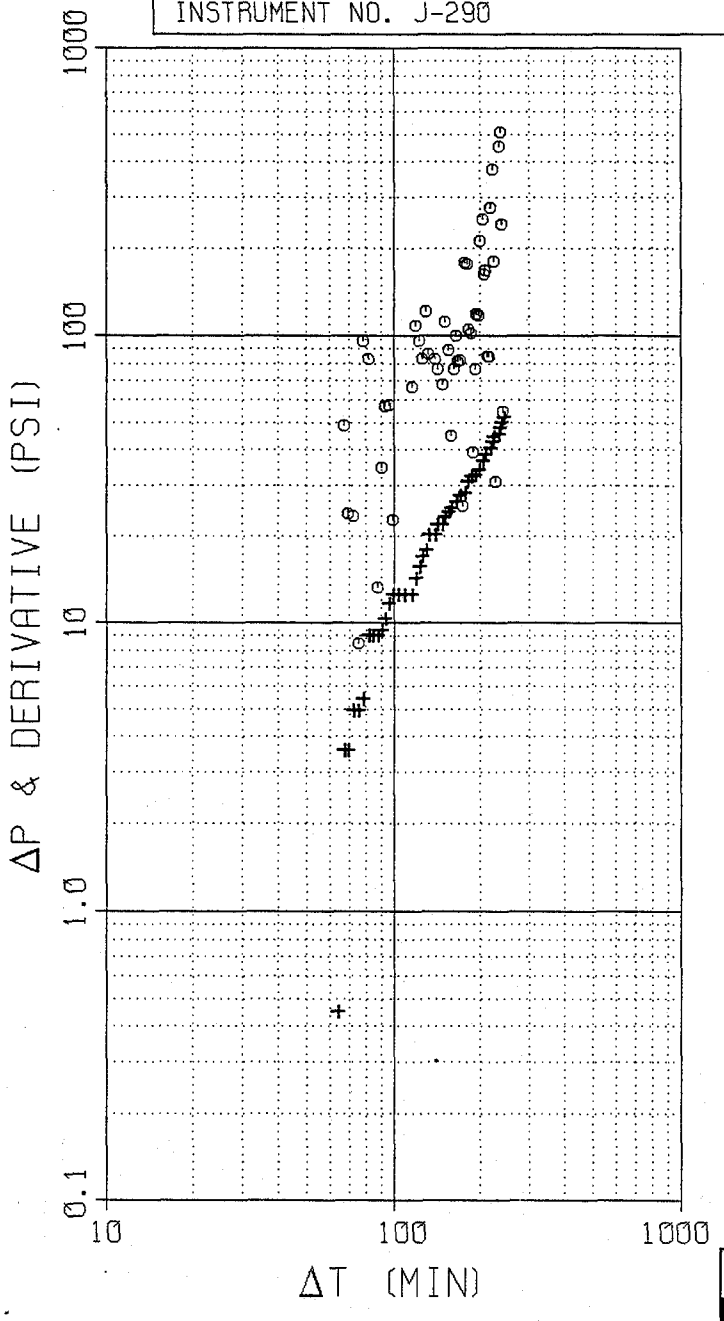



ΔT (MIN)
1.3
2.1
3.4
5.5
9.0
15
25
45
88
228
∞
HORNER PLOT
FIELD REPORT NO. 142562
INSTRUMENT NO. J-290
COMPANY : ANSCHUTZ EXPLORATION CORP.
WELL : TEXAS CREEK #14-22
SHUTIN #2 : FINAL FLOW PRESSURE (Pwf) : 102 PSIA
PLOT ELAPSED TIME RANGE: 167.7 TO 409.4 MIN
ΔT TIME RANGE: 2.6 TO 244.4 MIN
PRODUCING TIME (Tp) : 133.4 MIN
PRESSURE (PSIA)
160
150
140
130
120
110
100
90
80
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
LOG [(Tp+ΔT)/ΔT]
Schlumberger

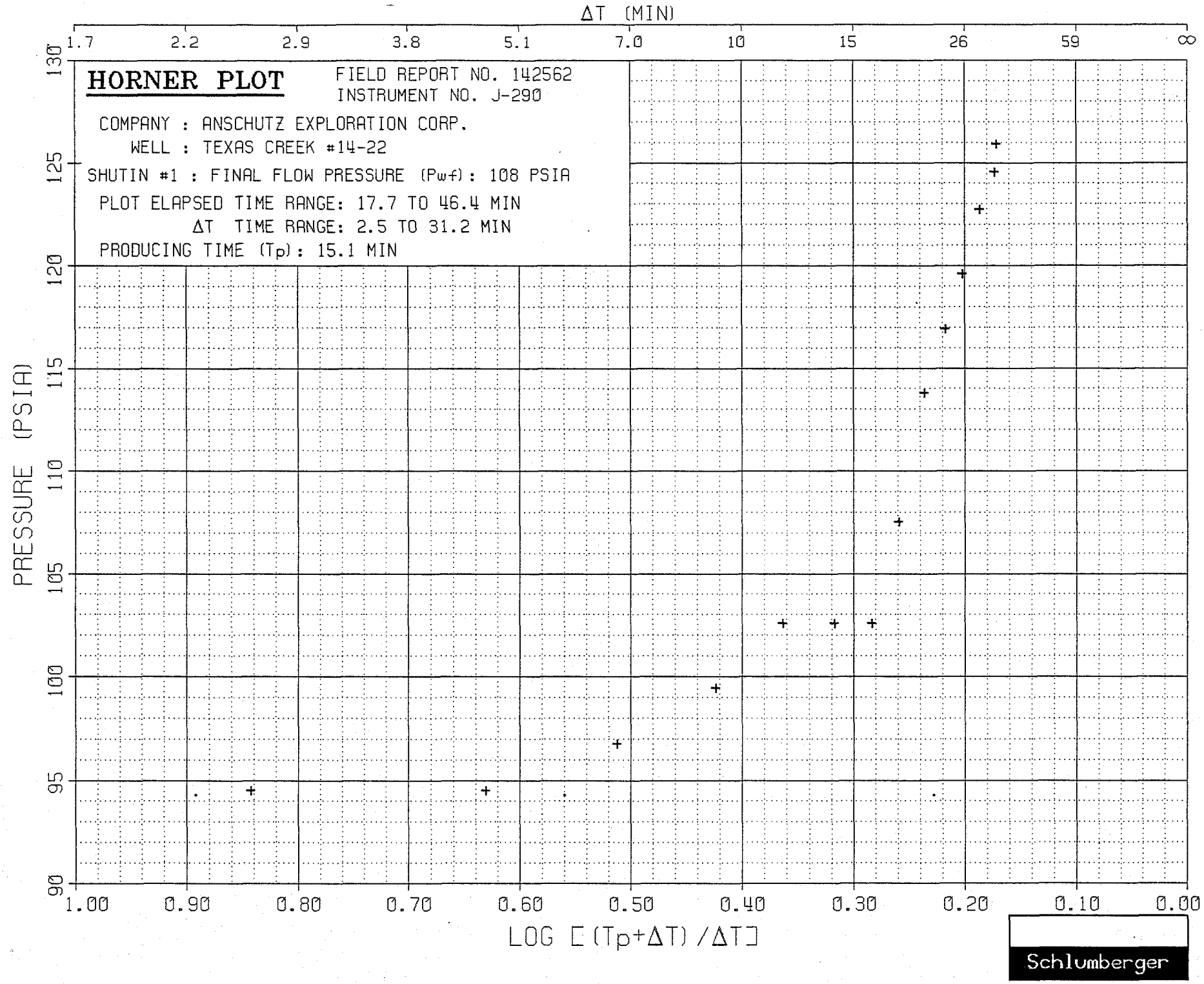
LOG LOG PLOT

COMPANY : ANSCHUTZ EXPLORATION CORP.
WELL : TEXAS CREEK #14-22
FIELD REPORT NO. 142562
INSTRUMENT NO. J-290

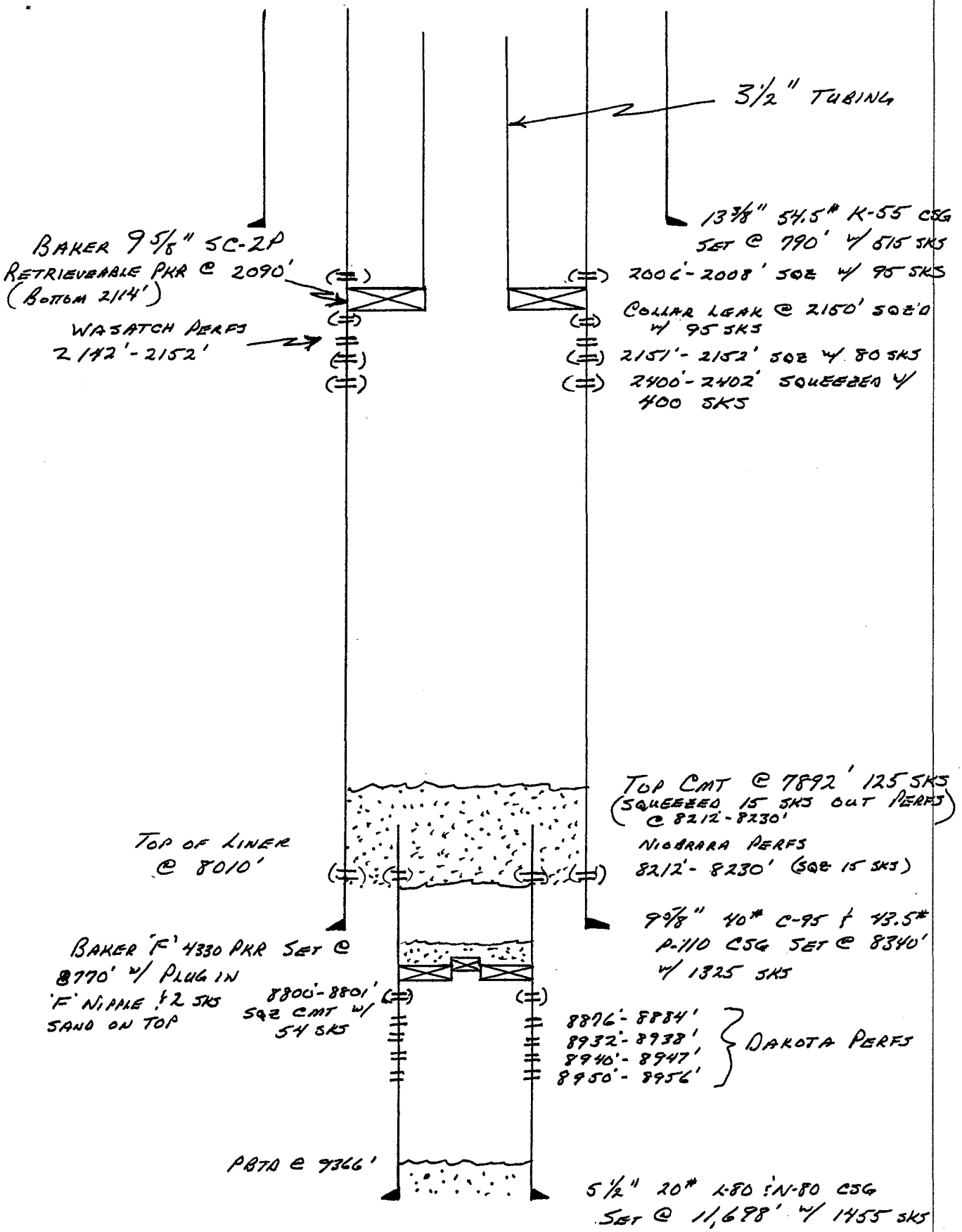
SHUTIN #2 : PRODUCING TIME (Tp) : 133.4 MIN
FINAL FLOW PRESSURE (P_{wf}) : 102 PSIA
PLOT ELAPSED TIME RANGE: 228.9 TO 409.4 MIN
ΔT TIME RANGE: 63.8 TO 244.4 MIN



Schlumberger


ΔT (MIN)
1.7
2.2
2.9
3.8
5.1
7.0
10
15
26
59
∞
HORNER PLOT
FIELD REPORT NO. 142562
INSTRUMENT NO. J-290
COMPANY : ANSCHUTZ EXPLORATION CORP.
WELL : TEXAS CREEK #14-22
SHUTIN #1 : FINAL FLOW PRESSURE (Pwf) : 108 PSIA
PLOT ELAPSED TIME RANGE: 17.7 TO 46.4 MIN
ΔT TIME RANGE: 2.5 TO 31.2 MIN
PRODUCING TIME (Tp) : 15.1 MIN
PRESSURE (PSIA)
130
125
120
115
110
105
100
95
90
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
LOG [(Tp+ΔT)/ΔT]
Schlumberger

TEXAS CREEK #14-22



(4)

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
CEMENTING OPERATIONS

WELL NAME: TEXAS CREEK 14-22 API NO: 43-047-32693

QTR/QTR: SE/SW SECTION: 22 TOWNSHIP: 11S RANGE: 25E

COMPANY NAME: ANSCHUTZ CORP. COMPANY MAN KEN CLAIR

INSPECTOR: D. HACKFORD DATE: 7/20/95-7/21

CASING INFORMATION: SURFACE CASING: Y

SIZE: 13 3/8" GRADE: 54.5# K55 HOLE SIZE: 17 1/2" DEPTH: 790'

PIPE CENTRALIZED: YES

CEMENTING COMPANY: WESTERN-BJ

CEMENTING STAGES: 1

SLURRY INFORMATION:

1. CLASS: "G" ADDITIVES: 85/15 POZ. 8% GEL 2% CACL 1/4# SX CELLOSEAL TAIL HAS 2% CACL AND 1/4# SX CELLOSEAL.

LEAD : 365 SX TAIL: 150 SX

2. SLURRY WEIGHT LBS. PER GALLON:

LEAD: 12.2 PPG TAIL: 15.8 PPG

3. WATER (GAL/SX)

LEAD: 13.10 GPS TAIL: 4.90 GPS

CEMENT TO SURFACE: YES LOST RETURNS: NO

1 INCH INFORMATION: WEIGHT: NA CEMENT TO SURFACE: __

FEET: _____ SX: _____ CLASS: _____ CACL%: _____ RETURNS: _____

ADDITIONAL COMMENTS: Plug down @ 1:20 AM. CEMENT REMAINED AT SURFACE AT 2:00 AM WHEN CONDUCTOR WAS CUT OFF. SURFACE HOLE WAS DRILLED WITH 8.9 WT. MUD WITH 32 VIS. SURVEY AT 617' WAS 3/4 DEGREES. WILL NIPPLE UP WITH DOUBLE GATE, ANNULAR, ROTATING HEAD.

RECEIVED
SEP 22 1995
DIV. OF OIL, GAS & MINING

43047 32293 CONFIDENTIAL
3ESW DRL

Schlumberger

FIELD REPORT

TYPE OF SERVICE	DATE	DISTRICT
MFE-OH	19-SEP-1995	VERNAL

WELL OWNER: ANSCHUTZ EXPLORATION CORP SERVICE ORDER NUMBER: 142562

REPORTS ADDRESS: 2400 ANACONDA TOWER / 555 SEVENTEENTH STREET / DENVER , CO 80202-3987 ATTN:GERRY LOUCKS

WELL NAME & NO.: TEXAS CREEK #14-22 FIELD: WC LEASE:

LOCATION: S22T11SR25E COUNTY: UINTAH STATE: UTAH

TEST NO. 1 TEST INTERVAL FROM 11229 FT TO 11307 FT = 78 FT

SURFACE DATA

DESCRIPTION	DATE	TIME OF DAY	PRESSURE
HYDROSTATIC MUD-SET PACKER	19-SEP	22:35	
START FLOW		22:35	
END FLOW & START SHUT-IN		22:51	
END SHUT-IN		23:22	
START FLOW		23:23	
END FLOW & START SHUT-IN	20-SEP	01:20	
END SHUT-IN		05:24	
HYDROSTATIC MUD		05:25	

EQUIPMENT SEQUENCE

COMPONENTS	OD	ID	LENGTH	DEPTH
DRILL PIPE	5.0	4.25	10473	
DILL COLLARS	6.5	2.375	501.2	
REVERSE CIRC SUB	6.5	3.0	.94	
DRILL COLLARS	6.5	2.375	90.	
REVERSE CIRC SUB	6.5	3.0	1.17	
DRILL COLLARS	6.5	2.375	121.	
X-OVER	6.5	2.25	.78	
MFE (MFEV-B)	5	0.94	10.1	
BYPASS	5.0	1.18	2.98	
JARS	4.75	1.87	7.31	
SAFETY JOINT	4.75	2.25	1.95	
SAFETY SEAL	6.0	1.50	4.93	
PACKER	7.75	1.50	5.03	11224
PACKER	7.75	1.50	5.26	11229
PERF	4.75	2.25	20.0	
RECORDER	4.875	1.18	5.90	
PERF	4.75	2.25	10.	
RECORDER	4.875	1.18	6.0	
PERF	4.75	2.25	2.0	
X-OVER	6.5	2.25	.57	
DRILL COLLAR	6.5	2.375	28.27	
X-OVER	6.5	2.25	.68	
BULL PLUG	4.75	2.25	3.68	

RECOVERY DESCRIPTION	FEET	BBLS	OIL GRAVITY	RESISTIVITY	CHLORIDES
DRILLING MUD	240			7.964 CHMS 68 °F	700 PPM

SERVICE ORDER NUMBER: 142562

SCHLUMBERGER ENGINEER/TECHNICIAN M. MCCURDY

Schlumberger

FIELD REPORT

TYPE OF SERVICE	DATE	DISTRICT
MFE-OH	19-SEP-1995	VERNAL

INSTRUMENT DATA

INSTRUMENT NO.	J-290	J-2187			
CAPACITY(PSIG)	9000	9000			
DEPTH	11255	11271			
INSIDE-OUTSIDE	OUT	IN			
CLOCK CAP	48	48			
TEMPERATURE °F	240	240			
I. HYD. PSIG					
I. FLOW PSIG					
I.S.I. PSIG					
2nd FLOW PSIG					
2nd S.I. PSIG					
F. FLOW PSIG					
F.S.I. PSIG					
F. HYD. PSIG					

MUD DATA

MUD TYPE	LSND	MUD WT	9.3 #/gal
VISCOSITY	35	WATER LOSS	CC
RESISTIVITY: OF MUD		@	°F
RESISTIVITY: OF FILTRATE	7.964 @ 68		°F
CHLORIDES	700	PPM	
H2S DURING TEST	0	PPM	

WELL BORE DATA

FORMATION TESTED	WEBER				
NET PRODUCTIVE INTERVAL	78	ft	EST. POROSITY	5	%
ELEVATION		ft	DEPTH MEASURED FROM KB		
TOTAL MEASURED DEPTH			11307		ft
O H SIZE	8.5	in			
CASING SIZE					
LINER SIZE					
PERF INTERVAL FROM		ft	TO		ft
SHOT DENSITY					

CUSHION	LENGTH	AMOUNT	SURFACE PRESS	BOTTOM CHOKE SIZE
NONE				.92

SAMPLER DATA

RECOVERY			RESISTIVITY			CHLORIDES	
GAS	.00049	C.F.	RECOVERED WATER	@	deg F		PPM
OIL		C.C.	RECOVERED MUD 8.0	@ 68	deg F		
WATER		C.C.	REC.MUD FILTRATE 7.964	@ 68	deg F	700	PPM
MUD	2450	C.C.	PIT MUD	@	deg F		
GRAVITY	°API	°F	PIT MUD FILTRATE 7.964	@ 68	deg F	700	PPM
GOR		C.F./BBL	SAMPLER PRESSURE .75 psig				

REMARKS:

SERVICE ORDER NUMBER:	SCHLUMBERGER ENGINEER/TECHNICIAN
142562	M. MCCURDY

FORM 9 STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

RECEIVED OCT 10 1995

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

1. Type of Well: OIL ☐ GAS ☐ OTHER: Drilling Well

8. Well Name and Number: Texas Creek 14-22

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 Seventeenth Street; #2400, Denver, CO 80202 (303) 298-1000

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well

Footages: 465' FSL & 1363' FWL County: Uintah

QQ, Sec., T., R., M.: SESW Section 22, T11S, R25E State: Colorado

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☐ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☒ Other Progress 9/30/95	
☐ Other			

Approximate date work will start

Date of work completion

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Set Intermediate casing: 9-5/8" 40# S-95 and 43.5# P110 casing set at 8335' w/1325 sx.

Cored Weber Formation 11,222-11,282', 11,282-11,307', 11335-11,344'

Drill to 11,700' (TD). Log well. Reached TD on 9/24/95.

Run 5½" 20# N-80 liner. Top 8010', bottom 11,698'. Set w/1455 sx.

As of 9/30/95, waiting on completion tools.

13.

Name & Signature: Donald R. Day Title: Engineering Mgr- RMD Date: 10-2-95

(This space for State use only)

(4\94) (See Instructions on Reverse Side)

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

RECEIVED

OCT 10 1995

DIV. OF OIL, GAS & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number:

6. If Indian, Alottee or Tribe Name:

7. Unit Agreement Name:

1. Type of Well: OIL ☐ GAS ☐ OTHER: Drilling Well

8. Well Name and Number: Texas Creek 14-22

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 Seventeenth Street; #2400, Denver, CO 80202 (303) 298-1000

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well

Footages: 465' FSL & 1363' FWL

County: Uintah

QQ, Sec., T., R., M.: SESW Section 22, T11S, R25E

State: Colorado

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☐ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☒ Other Progress 8/31/95	
☐ Other			

Approximate date work will start _____

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

As of 8/31/95, Drilled to 8338'. Logging well prior to running intermediate (9-5/8") casing. Setting casing earlier than anticipated (9000' in APD) due to hole conditions.

13.

Name & Signature: Donald R. Day Donald R. Day Title: Engineering Mgr- RMD Date: 10-2-95

(This space for State use only)

(4\94) (See Instructions on Reverse Side)

FORM 9

STATE OF UTAH

DIVISION OF GAS AND MINING

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

SUNDRY NOTICES AND REPORTS ON WELLS

RECEIVED
OCT 10 1995
DIV. OF OIL, GAS & MINING

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7. Unit Agreement Name:

1. Type of Well: OIL ☐ GAS ☐ OTHER: Drilling Well

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QQ, Sec., T., R., M.: SESW Section 22, T11S, R25E

County: Uintah
State: Colorado

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☐ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☒ Other Progress 7-31-95	
☐ Other			

Approximate date work will start

Date of work completion

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Spud well @ 3 AM on 7/19/95
Drill to 790'.
Set 13-3/8" 54.5# K-55 Buttress Casing @ 790' w/ 515 sx.
Drill to 3583' on 7/31/95.

13.

Name & Signature: Donald R. Day Donald R. Day Title: Engineering Mgr- RMD Date: 10-2-95

(This space for State use only)

(4\94)

(See Instructions on Reverse Side)

CONFIDENTIAL

Anschutz Exploration Corp.

Texas Creek #14-22

Sec. 22 T11S R25E
43 047 32693
Uintah County, Utah
DRL SESW
0465 FSL 1363 FWL

Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95

Reference Number	Depth (ft)	Permeability Air (md)	Permeability Klink (md)	Helium Porosity (%)	Saturations Water (%)	Saturations Oil (%)	Grain Density (g/cc)	Sample Description
		Core No. 1	*11222.0'-11282.0'*		*Rec. 60.0'/60.0'*			
1	11222.2	0.002	<0.001	0.3	54.8	0.0	2.72	Sst dk gry vf-crs gr dns
2	11223.2	0.006	0.002	0.3	57.9	0.0	2.75	Sst dk gry vf-crs gr calc dns
3	11224.7	0.024	0.010	1.9	56.1	0.0	2.69	Sst dk gry vf-m gr spty calc
4	11225.7	0.032	0.015	2.2	42.8	0.0	2.73	Sst wh-dk gry vf-crs gr calc
5	11226.5	0.076	0.041	3.8	40.2	0.0	2.67	Sst gry vf-crs gr sl calc
6	11227.4	0.014	0.005	1.3	66.8	0.0	2.72	Sst gry vf-crs gr sl calc dns
7	11228.5	0.021	0.008	2.0	28.7	0.0	2.72	Sst gry vf-crs gr calc dns
8	11229.3	0.287	0.189	5.2	45.0	0.0	2.69	Sst lt gry m-crs gr sl calc
9	11230.7	0.192	0.120	4.2	36.4	0.0	2.71	Sst lt gry m-crs gr sl calc
10	11231.7	0.270	0.177	4.2	28.2	0.0	2.69	Sst lt gry m-crs gr
11	11235.4	0.035	0.016	2.8	43.4	0.0	2.70	Sst rd-pchy gry f-crs gr
12	11236.3	0.023	0.010	2.2	30.9	0.0	2.72	Sst lt gry f-crs gr calc
13	11237.4	0.018	0.007	1.9	30.2	0.0	2.72	Sst lt gry-pchy rd vf-crs gr calc
14	11238.5	0.046	0.022	2.9	34.0	0.0	2.69	Sst pk vf-m gry sl calc
15	11239.6	0.023	0.009	1.9	23.8	0.0	2.70	Sst bu vf-m gr calc
16	11240.4	0.020	0.008	1.8	44.5	0.0	2.68	Sst pk vf-m gr calc
17	11241.0	0.014	0.005	1.3	30.3	0.0	2.73	Sst pk vf-m gr calc
18	11242.3	0.024	0.010	1.9	31.0	0.0	2.70	Sst lt gry vf-m gry calc
19	11243.3	0.050	0.025	3.1	29.7	9.9	2.70	Sst rd-pchy gry f-crs gr calc
20	11244.1	0.127	0.075	1.7	56.4	14.1	2.73	Sst rd-pchy gry vf-crs gr
21	11245.4	0.038	0.018	2.8	54.7	0.0	2.71	Sst rd-pchy gry vf-crs gr sl calc
22	11246.5	0.026	0.011	2.3	32.2	0.0	2.72	Sst rd vf-f gr sl calc
23	11247.6	0.029	0.013	2.5	35.9	5.1	2.72	Sst pk vf-f gr calc
24	11248.4	0.023	0.010	2.8	23.2	0.0	2.73	Sst rd vf-f gr sl calc
25	11249.4	0.027	0.012	2.8	39.4	0.0	2.72	Sst gry-brn vf-m gr sl calc
26	11250.7	0.143	0.086	3.6	30.7	0.0	2.69	Sst lt gry vf-crs gr
27	11251.3	0.084	0.046	3.9	44.4	5.6	2.71	Sst lt gry vf-crs gr
28	11252.3	0.218	0.139	4.1	53.1	0.0	2.71	Sst lt gry vf-crs gr

Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95

Reference Number	Depth (ft)	Permeability *Air* (md)	Permeability *Klink* (md)	Helium Porosity (%)	Saturations Water (%)	Saturations Oil (%)	Grain Density (g/cc)	Sample Description
29	11253.3	0.228	0.146	4.2	31.7	0.0	2.70	Sst lt gry vf-crs gr
30	11254.6	0.296	0.196	4.2	46.2	4.3	2.71	Sst lt gry vf-crs gr
31	11255.5	0.300	0.199	4.2	37.4	0.0	2.71	Sst lt gry vf-crs gr
32	11256.3	0.160	0.098	3.8	56.8	0.0	2.70	Sst lt gry vf-crs gr sl calc
33	11257.5	0.548	0.395	4.1	33.0	0.0	2.69	Sst lt gry f-crs gr sl calc
34	11258.4	0.172	0.105	4.2	30.6	0.0	2.70	Sst lt gry f-crs gr sl calc
35	11259.4	0.169	0.104	3.3	21.8	0.0	2.71	Sst lt gry f-crs gr lam calc
36	11260.2	0.064	0.033	3.8	63.8	0.0	2.69	Sst lt gry vf-m gr calc
37	11261.3	0.041	0.020	2.5	36.8	0.0	2.71	Sst wh-pchy gry vf-crs gr calc
38	11262.5	0.053	0.027	2.9	29.8	0.0	2.69	Sst wh-gry lam vf-crs gr calc
39	11263.6	0.069	0.036	3.6	47.9	0.0	2.69	Sst gry-brn vf-crs gr calc
40	11264.7	0.051	0.026	3.4	55.9	0.0	2.70	Sst gry-brn vf-m gr calc
41	11265.2	0.034	0.016	3.3	60.8	0.0	2.70	Sst gry vf-m gr calc
42	11266.2	0.052	0.026	3.6	26.8	0.0	2.69	Sst gry vf-crs gr calc
43	11267.8	0.053	0.027	4.0	20.6	0.0	2.69	Sst gry-brn vf-m gr sl calc
44	11268.3	0.051	0.026	3.9	41.1	0.0	2.69	Sst gry-brn vf-m gr sl calc
45	11269.6	0.059	0.031	4.5	34.4	0.0	2.68	Sst gry-wh vf-f gr calc lam
46	11270.6	0.068	0.036	5.0	58.1	5.8	2.68	Sst gry-wh vf-m gr calc lam
47	11271.2	0.078	0.042	5.2	57.2	15.6	2.66	Sst gry-wh vf-m gr calc lam
48	11272.3	0.081	0.044	5.2	55.3	0.0	2.67	Sst wh-gry vf-crs gr sl calc lam
49	11273.5	0.050	0.025	4.7	48.6	5.4	2.67	Sst gry-wh vf-f gr calc lam
50	11274.5	0.066	0.035	6.0	54.9	13.7	2.65	Sst gry-wh vf-m gr calc lam
51	11275.3	0.069	0.036	6.7	56.8	11.8	2.65	Sst gry-wh vf-m gr calc lam
52	11276.6	0.035	0.016	5.1	56.4	9.4	2.70	Sst gry-brn vf-m gr calc
53	11277.7	0.021	0.008	2.7	56.5	0.0	2.73	Sst gry-brn vf-crs gr calc
54	11278.3	0.088	0.049	3.9	45.4	0.0	2.68	Sst gry-brn vf-crs gr sl calc
55	11279.5	0.442	0.310	5.7	35.3	0.0	2.69	Sst lt gry f-v crs gr sl calc
56	11280.3	0.643	0.472	5.5	47.6	0.0	2.68	Sst lt gry f-v crs gr sl calc
57	11281.7	0.486	0.345	5.3	29.8	0.0	2.68	Sst lt gry f-v crs gr clas sl calc

Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95

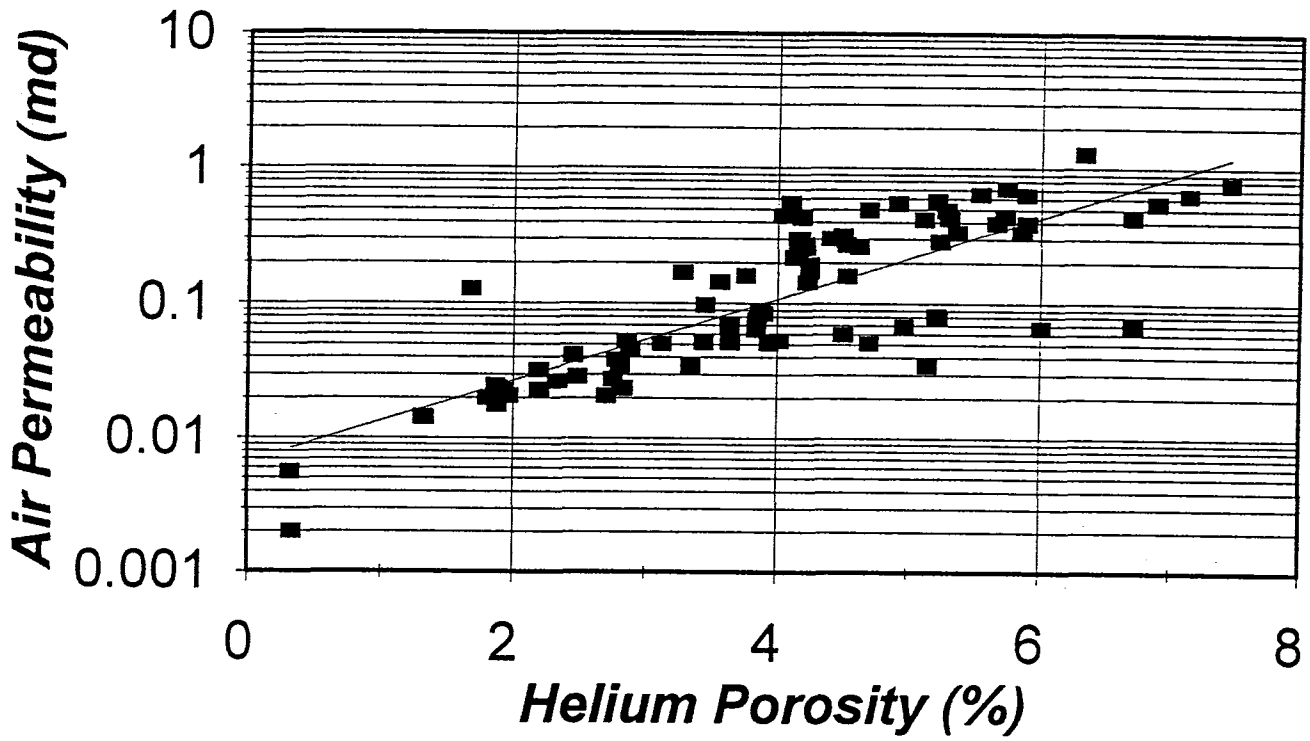
Reference Number	Depth (ft)	Permeability Air (md)	Permeability Klink (md)	Helium Porosity (%)	Saturations Water (%)	Saturations Oil (%)	Grain Density (g/cc)	Sample Description
			Core No. 2 11282.0'-11307.3' Rec. 25.3'/25.3'					
58	11282.3	0.548	0.395	4.9	41.4	0.0	2.67	Sst lt gry f-v crs gr
59	11283.4	0.416	0.287	5.1	66.7	0.0	2.68	Sst lt gry f-v crs gr
60	11284.5	0.493	0.351	4.7	44.3	0.0	2.68	Sst lt gry f-v crs gr
61	11285.6	0.445	0.312	4.0	44.3	0.0	2.70	Sst lt gry f-v crs gr sl calc
62	11288.5	0.097	0.055	3.5	52.2	0.0	2.70	Sst lt gry-sl pk f-crs gr sl calc
63	11289.3	0.160	0.097	4.5	51.6	0.0	2.70	Sst pk f-v crs gr lge clas
64	11290.6	0.144	0.086	4.2	51.8	0.0	2.69	Sst lt gry f-v crs gr
65	11291.5	0.255	0.165	4.2	34.5	0.0	2.68	Sst lt gry f-v crs gr sl calc
66	11292.6	0.272	0.178	4.5	35.2	0.0	2.67	Sst lt gry f-v crs gr
67	11293.5	0.427	0.295	4.2	26.7	0.0	2.67	Sst lt gry f-v crs gr sl calc clas
68	11294.8	0.314	0.209	4.5	38.2	0.0	2.69	Sst lt gry f-v crs gr sl calc
69	11295.7	0.302	0.201	4.4	31.8	0.0	2.70	Sst lt gry f-v crs gr sl calc
70	11301.3	0.263	0.172	4.6	34.1	0.0	2.66	Sst lt gry-gnsh f-v crs gr sl calc
71	11302.4	0.572	0.415	5.2	27.4	0.0	2.68	Sst pk f-v crs gr calc
72	11303.6	0.391	0.268	5.7	30.3	0.0	2.67	Sst pk f-v crs gr calc
73	11304.6	0.334	0.224	5.9	38.0	0.0	2.66	Sst pk f-v crs gr
74	11305.5	0.392	0.268	5.9	45.8	0.0	2.67	Sst pk f-v crs gr sl calc
75	11306.6	0.424	0.293	5.3	35.3	0.0	2.66	Sst pk f-v crs gr sl calc
			Core No. 3 11335.0'-11344.0' Rec. 7.5'/9.0'					
76	11335.4	0.334	0.225	5.4	42.4	0.0	2.68	Sst rd f-v crs gr
77	11336.5	0.429	0.296	6.7	37.8	0.0	2.67	Sst pk f-v crs gr sl calc
78	11337.4	1.29	1.01	6.3	32.9	0.0	2.66	Sst pk f-v crs gr calc
79	11338.3	0.549	0.396	6.9	58.3	0.0	2.68	Sst pk f-v crs gr sl calc
80	11339.5	0.636	0.466	7.1	47.2	0.0	2.67	Sst pk f-v crs gr sl calc
81	11340.3	0.764	0.572	7.5	34.9	0.0	2.67	Sst pk f-v crs gr sl calc
82	11341.3	0.638	0.468	5.9	48.0	0.0	2.66	Sst pk f-v crs gr v sl calc
83	11342.4	0.712	0.529	5.7	37.8	0.0	2.67	Sst pk f-v crs gr sl calc clas

Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95

Air Permeability vs Helium Porosity

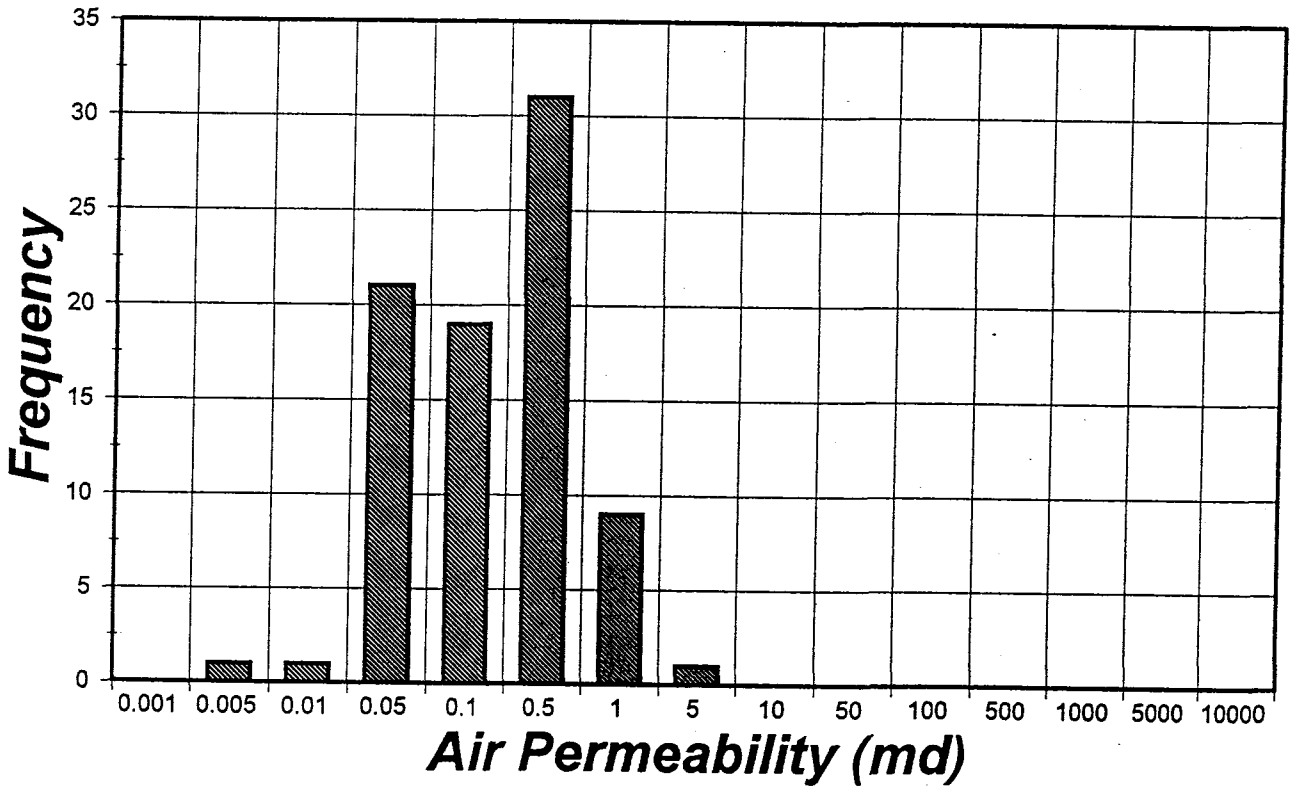


Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95

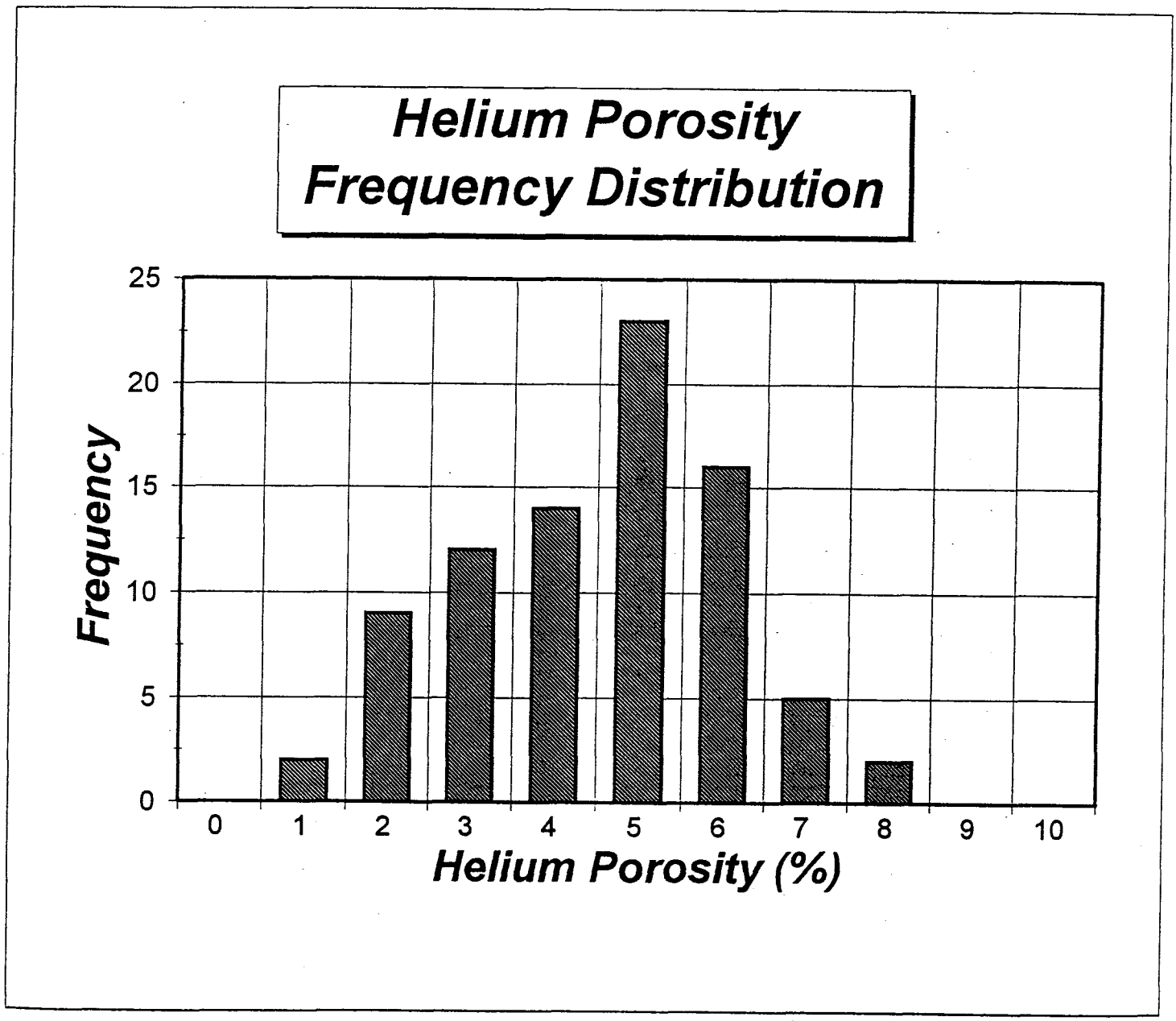
Air Permeability Frequency Distribution



Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95



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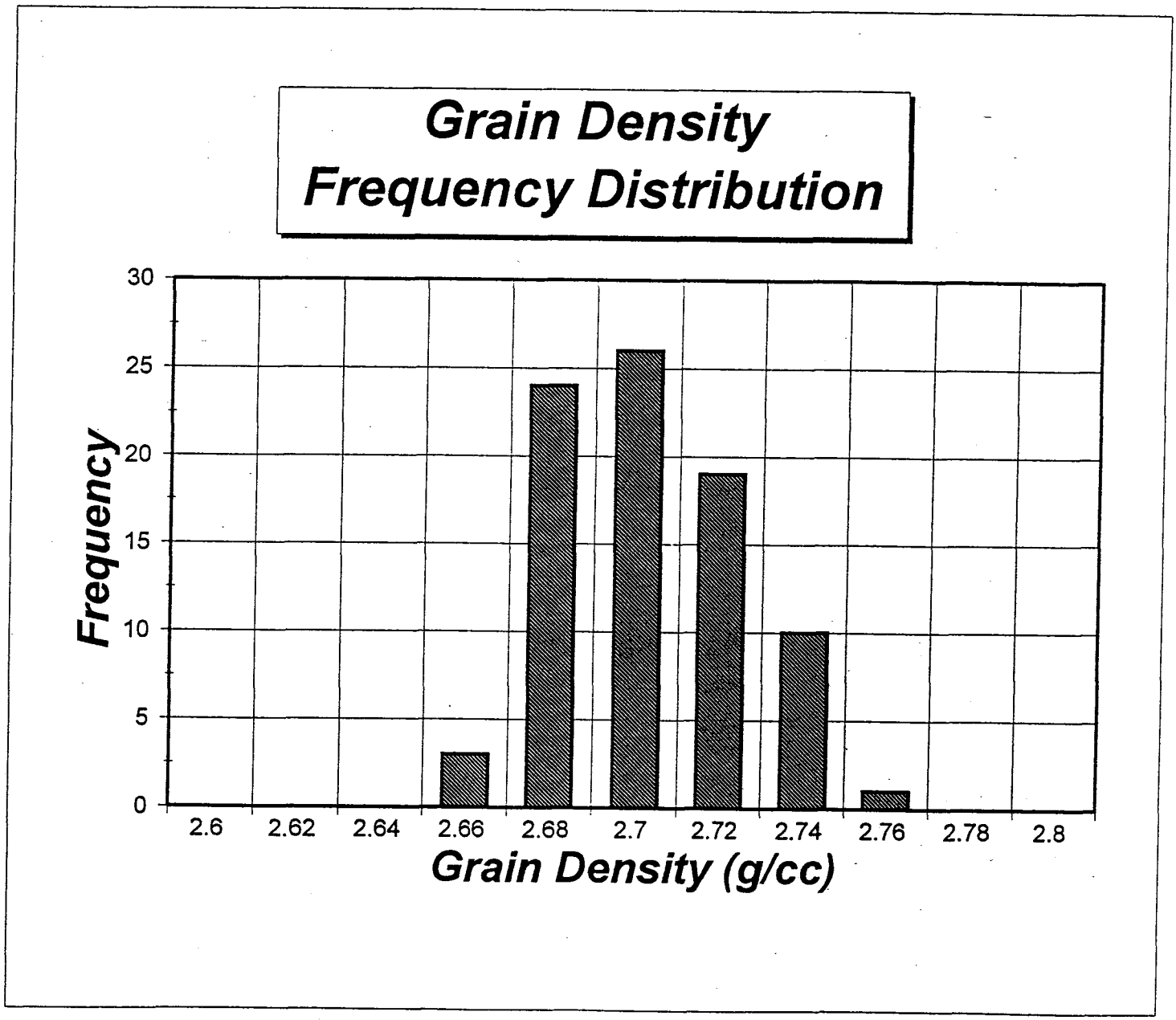
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

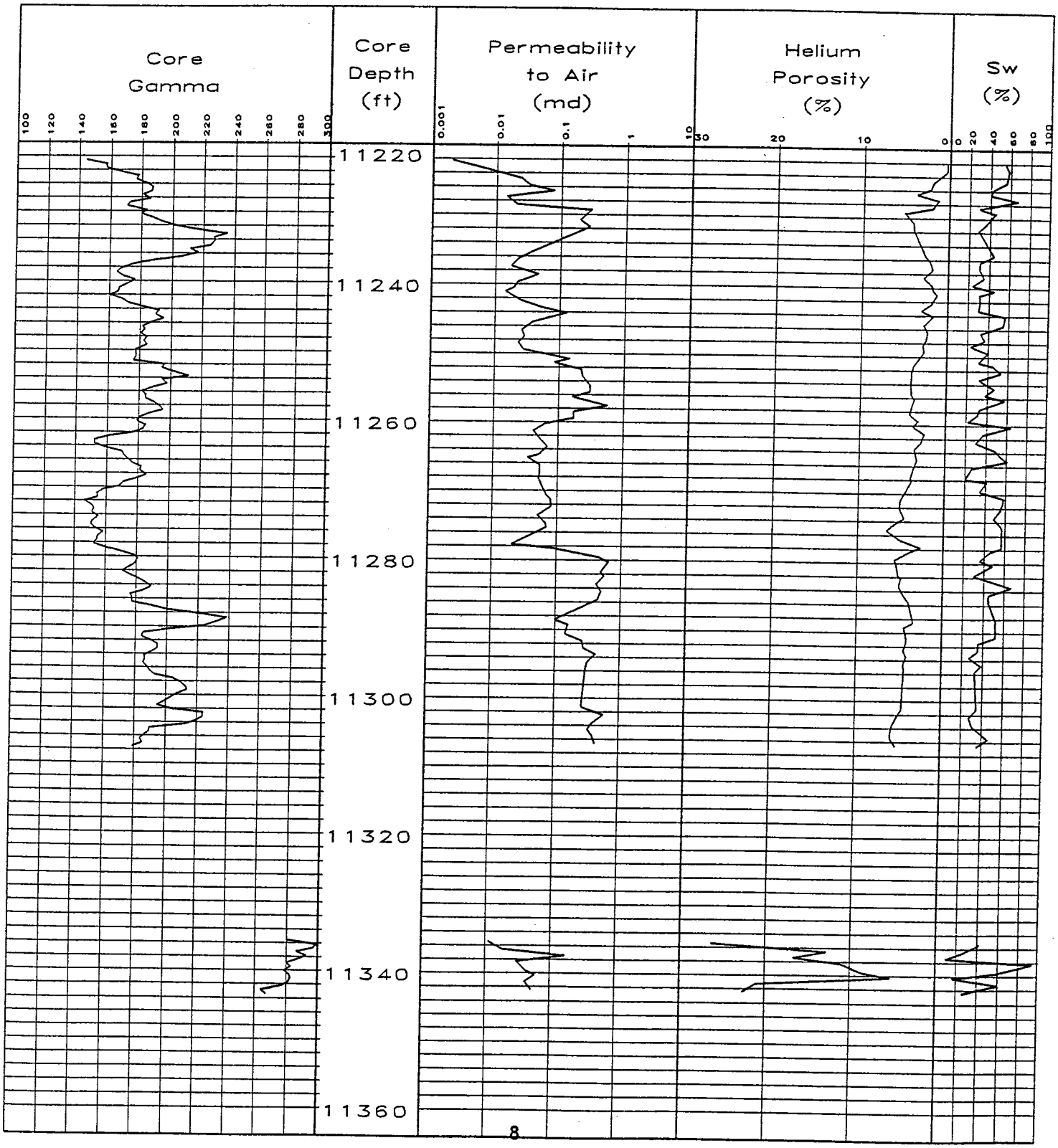
Job: 9532
Date: 25-Sep-95



Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22

Job: 9532
Date: 25-Sep-95



Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95

Zone	Permeability (md)*			Porosity (%)**		
	Median	Arith. Mean	Geom. Mean	Median	Arith. Mean	Geom. Mean
Zone1	0.097	0.217	0.109	4.153	4.017	3.606

* Values above 0.00 md
** Values above 0.00 %

Precision Core Analysis, Inc.

Anschutz Exploration Corp.
Texas Creek #14-22
Sec. 22 T11S R25E
Uintah County, Utah

Job: 9532
Date: 25-Sep-95

Zone1 Air Permeability Regression

Regression Output:

Constant	-2.175717
Std Err of Y Est	0.334994
R Squared	0.661491
No. of Observatio	83.000000
Degrees of Freed	81.000000
X Coefficient(s)	0.301833
Std Err of Coef.	0.023991

Zone1 Klinkenberg Permeability Regression

Regression Output:

Constant	-2.654591
Std Err of Y Est	0.394154
R Squared	0.663995
No. of Observatio	83.000000
Degrees of Freed	81.000000
X Coefficient(s)	0.357132
Std Err of Coef.	0.028228

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☒ OTHER: CONFIDENTIAL

8. Well Name and Number: Texas Creek 14-22

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 Seventeenth Street; #2400, Denver, CO 80202 (303) 298-1000

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well
Footages: 465' FSL & 1363' FWL
QQ, Sec., T., R., M.: SESW Section 22, T11S, R25E

County: Uintah
State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☐ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☒ Other status	
☐ Other			

Approximate date work will start: _____

Date of work completion: 10-31-95

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Move in completion rig. Run Schlumberger Cement Evaluation Log. Bond appears poor. Perforate 8000-8001 w/4JSPF for squeeze above Dakota interval. Squeeze w/75 sx cement. Zone apparently took 54 sx of the 75 behind pipe. Wait on Cement.

RECEIVED
NOV 15 1995
DIV. OF OIL, GAS & MINING

13.

Name & Signature: Donald R. Day Donald R. Day Title: Engineering Manager-RMD Date: 11-13-95

(This space for State use only)

(4\94) (See Instructions on Reverse Side)

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☒ OTHER:

8. Well Name and Number: Texas Creek 14-22

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 Seventeenth Street; Suite 2400, Denver, CO 80202 303-298-1000

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well

Footages: 465' FSL & 1363' FWL

QQ, Sec., T., R., M.: SESW Section 22, T11S, R25E

County: Uintah

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☐ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☒ Other Status - November 1995	
☐ Other			

Approximate date work will start

Date of work completion 11/30/95

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Perforate and fracture stimulate Dakota Sandstone. Flow test Dakota. Zone appears marginal. Plan to test Niobrara. Attempt to squeeze cement across Wasatch formation from 2000'-2400'. Battle stuck packer and problems with leaking collar. Finally ready to test Niobrara 11/30/95.

RECEIVED
DEC - 7 1995
DIV OF OIL, GAS & MINING

13.

Name & Signature: Donald R. Day Donald R Day Title: Engineering Manager - RMD Date: 12/4/95

(This space for State use only)

(4\94)

(See Instructions on Reverse Side)

FORM 8

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

RECEIVED
JAN 8 1996
DIV. OF OIL, GAS & MINING

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

7. UNIT AGREEMENT NAME

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

8. FARM OR LEASE NAME: Texas Creek

2. NAME OF OPERATOR: Anschutz Exploration Corporation

9. WELL NO.: 14-22

3. ADDRESS OF OPERATOR: 555 Seventeenth Street; Suite 2400, Denver, CO 80202

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)
At surface: 465' FSL & 1363' FWL
At top prod. interval reported below
At total depth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: SESW Sec. 22, T11S, R25E

14. API NO.	DATE ISSUED	12. COUNTY	13. STATE
43-047-32693	6/21/95	Uintah	Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*) (*Plug & Abd.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)	19. ELEV. CASINGHEAD
7-19-95	9-24-95		5669' KB	

20. TOTAL DEPTH, MD & TVD	21. PLUG BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
11,700 MD			→	0-11,700'	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)

25. WAS DIRECTIONAL SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN: DIL, LDT/CNL, BHC Sonic

27. WAS WELL CORED YES ☒ NO ☐ (Submit analysis)
DRILL STEM TEST YES ☒ NO ☐ (See reverse side)

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20" Cond.	Conductor	96'			0
13-3/8"	54.5	790'	17½"	515 sx.	0
9-5/8"	40 & 43.5	8335'	12¼"	1325 sx	0
5½"	20	11,700'	8.75"	1455 sx (Liner top @ 8010')	0

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT	SCREEN (MD)
5½"	8010'	11,700'	1455	

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
3.5"	2130'	2000'

31. PERFORATION RECORD (*Interval, size and number*)

8876-8956' .40" 62 perfs (Dakota)
8212-8230' .40" 73 perfs (Niobrara)
2142-2152' .40" 41 perfs (Wasatch)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
8876 - 8956'	frac w/250,000 sand (now below BP)
8212-30'	acidize w/3000 gal 15% HCl
2142-52'	Acidize w/1000 gal 7.5% HCl
8212-30'	squeeze w/125 sx Class H

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
12/14/95	flowing	Shut-in

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
12/18/95	24	14/64"		1	605	0	605,000

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
550#	0		1	605	0	

Put on completion

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*): flared

TEST WITNESSED BY: Jerry Blair

35. LIST OF ATTACHMENTS: DST & Core data

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED _____ TITLE Engineering Manager - RMD DATE 1-4-96

See Spaces for Additional Data on Reverse Side

(3/89)

INSTRUCTIONS

This form should be completed in compliance with the Utah Oil and Gas Conservation General Rules. If not filed prior to this time, all logs, tests, and directional surveys as required by Utah Rules should be attached and submitted with this report.

ITEM 18: Indicate which elevation is used as reference for depth measurements given in other spaces on this form and on any attachments.

ITEMS 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producinginterval, or intervals, top(s), bottom(s) and name(s) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

ITEM 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

ITEM 33: Submit a separate completion report on this form for each interval to be separately produced (see instruction for items 22 and 24 above).

37. SUMMARY OF POROUS ZONES:
Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

Formation	Top	Bottom	Description, contents, etc.
Wasatch Mesa Verde	2142	2152	Gas
Niobrara	8212	8230	Gas
Dakota	8876	8956	Gas/Water

38. GEOLOGIC MARKERS

Name	Top	
	Meas. Depth	True Vert. Depth
Wasatch	1400	
Mesa Verde	2325	
Mancos	4960	
Niobrara	7524	
Dakota	8788	
Weber	11222	

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

RECEIVED
JAN 8 1996
DIV OF OIL, GAS & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

1. Type of Well: OIL ☐ GAS ☒ OTHER: CONFIDENTIAL

8. Well Name and Number: Texas Creek 14-22

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 Seventeenth Street; #2400, Denver, CO 80202 (303) 298-1000

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well

Footages: 465' FSL & 1363' FWL

QQ, Sec.,T.,R.,M.: SESW Section 22, T11S, R25E

County: Uintah

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☐ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☒ Other Status-December 1995	
☐ Other			

Approximate date work will start: _____

Date of work completion: 12/31/95

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Perforate and test Niobrara Formation. Reperf Niobrara and acidize. Test. Squeeze Niobrara perfs leaving 200' cement above perfs.

Perforate Wasatch Formation. Flow Test. Acidize Wasatch. Flow Test. Shut-in well for Pressure build-up. Well Currently shut-in.

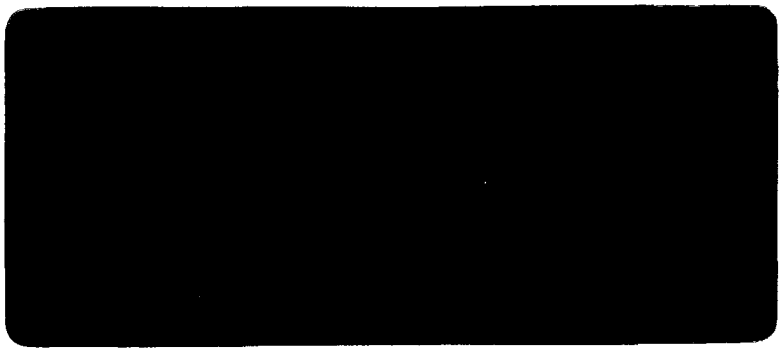
13.

Name & Signature: Donald R. Day Donald R. Day Title: Engineering Manager-RMD Date: 1-4-96

(This space for State use only)

(4\94)

(See Instructions on Reverse Side)



WELLSITE GEOLOGIST'S REPORT

TIGHT HOLE

T. M. McCOY & CO., INC.
CONSULTING GEOLOGISTS

SKYLINE RANCH • P.O. BOX 608 • WILSON, WYOMING 83014 • 307 733-4332

ANSCHUTZ EXPLORATION CORPORATION

TEXAS CREEK #14-22

SW SE SW SEC 22 T11S R25E

UINTAH COUNTY, UTAH

43-047-32693

SUMMARY

WELL DATA

FORMATION TOPS

LITHOLOGY AND SHOWS

CORES

DRILL STEM TEST

LOG CALCULATIONS

SERVICES

DAILY OPERATIONS

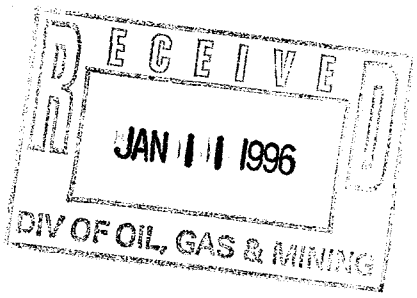
MUD RECORD

BIT RECORD

DEVIATIONS

DRILLING CURVE

DRILLING TIME LOG



Anschutz Exploration Corporation
Texas Creek #14-22

SUMMARY

A production liner was set at 11700' TD at the Anschutz Exploration Corporation Texas Creek #14-22 for testing several horizons, including Wasatch, Niobrara, Dakota, and possibly Weber.

Evaluation included computerized drilling time, samples, and FID total gas and chromatography from a 2-man mud logging unit. In the Weber three cores were cut and one DST was run. Schlumberger ran induction, neutron, density, sonic, natural gamma, and cement evaluation logs.

Prospect

The wildcat sought a major discovery of stratigraphically trapped oil in the Weber. Prospective thick and porous dune sands were targeted downdip from shows at The Anschutz Corporation USA 4450 #11-12 test drilled in 1994.

Wasatch

Gas sand 2142' - 2152' blew out; mud weight was increased from 8.9 to 11.0 lb/gal to kill the well. Chromatography indicates the gas is almost all methane. Neutron-density crossover highlights the gas pay. Porosity averages 17%. Where Rw = 0.27 ohm-m, Sw averages 38%, at best 31%.

Niobrara

Correlation with other wells and the pattern of resistivity curves indicates a fault may have been cut at about 8214' log depth (8222' rig depth). Here the Niobrara produced a sharp gas increase to 23,600 units. The relatively rich gas comprises at least C1 - C5; a good sweet odor was noted at the shaker.

Continued gas-cutting of the mud but lack of flow while underbalanced indicate high pressure and low permeability--the well would have kicked if the borehole had intersected substantial fracturing or rock matrix of high permeability. Logs show some increased resistivity but little else that is anomalous.

This horizon was cemented behind intermediate casing but appears to have communicated with the 8 1/2" hole either through a micro-annulus or imperfect cement. I believe this was the source of numerous, sporadic, and otherwise unexplained rich gas increases below intermediate casing point.

Anschutz Exploration Corporation
Texas Creek #14-22

SUMMARY

Dakota

Several sands merit testing through pipe. Absence of sample shows indicates no oil. Fair to good FID total gas increases and chromatography point to either producible gas or to relatively dry gas in water. Some gas effect suggested by neutron-density crossover is questionable due to varying degrees of washout. Best potential is in the uppermost sands. Where Rw = 0.07 ohm-m:

Interval	FID Gas	Porosity	Calculated Sw
8780' - 8812'	Good	13%	Average 33%, at best 16%
8874' - 8884'	Fair	15%	Average 62%, at best 46%
8924' - 8944'	Good	15%	Average 67%, at best 51%
8968' - 8988'	Fair	12% - 16%	Average 96%

Weber

The prospective thick and porous oil-bearing dune sands were not found. The top 85 ft of the Weber was proven tight by cores #1 and #2 and by DST #1.

Cores and samples reveal the dominant environment is alluvial; dune sandstone from the cored interval is 8 ft thick at best. Most original porosity has been lost to calcite, silica, or clay fill and in some intervals to significant bitumen plugging.

T. M. McCoy
Consulting Geologist

Anschutz Exploration Corporation
Texas Creek #14-22

WELL DATA

OPERATOR:	Anschutz Exploration Corporation
WELL NAME:	Texas Creek #14-22
LOCATION:	465' fsl & 1363' fwl SW SE SW Sec. 22, T11S, R25E Uintah County, Utah
API NUMBER:	43-047-32693
ELEVATIONS:	5651' GL 5646' Graded 5669' KB
FIELD:	Wildcat
ROAD DIRECTIONS:	From Vernal, SE 46 miles on US 40 and Utah State Highway 45 through Bonanza; at mile marker 0, E 11 miles on Baxter Pass road; at Park Canyon, left 1 mile to location.
SURFACE CASING:	13 3/8" set at 790' KB.
INTERMEDIATE CASING:	9 5/8" set at 8340' KB.
SPUD DATE:	19 July 1995 3:00 AM
DRILLING COMPLETED:	24 Sept. 1995 5:00 AM
MAXIMUM TEMPERATURE:	210 deg F
TOTAL DEPTH:	11700' Driller 11690' Logger
LAST FORMATION PENETRATED:	Weber
WELL STATUS:	Ran 5 1/2" 20# liner to 11698' for testing Dakota and possibly Weber.
OPERATOR REPRESENTATIVES:	Gerald Loucks - Geology Dan Gallagher - Drilling Donald Day - Engineering Lorraine Druyff - Petrography Monte Fryt - Petrophysics

Anschutz Exploration Corporation
Texas Creek #14-22

FORMATION TOPS

	Log Top	5669 KB Datum
TERTIARY		
Green River	Surface	
Wasatch	1400	+4269
CRETACEOUS		
Mesa Verde Fm.	2325	+3344
Lower Sego Ss.	4290	+1379
Buck Tongue of Mancos Sh.	4562	+1107
Castlegate Ss.	4732	+937
Mancos Sh.	4960	+709
Mancos "B" Mbr.	5472	+197
Lower Mancos Sh.	6175	-506
Niobrara Fm.	7524	-1855
Frontier Fm.	8543	-2874
Dakota Ss.	8780	-3111
JURASSIC		
Morrison Fm.	9046	-3377
Curtis Fm.	9564	-3895
Entrada Ss.	9601	-3932
Carmel Fm.	9808	-4139
JURASSIC-TRIASSIC		
Navajo Ss.	9850	-4181
TRIASSIC		
Chinle Fm.	10472	-4803
Shinarump Ss.	10630	-4961
Moenkopi Fm.	10652	-4983
Sinbad Ls. Marker	10853	-5184
PERMIAN		
Phosphoria Fm.	11120	-5451
PERMIAN-PENNSYLVANIAN		
Weber Ss.	11208	-5539
TD Log	11690	
TD Driller	11700	

Anschutz Exploration Corporation
Texas Creek #14-22

LITHOLOGY AND SHOWS

The following descriptions are interpretive and are tied to the wireline logs at points of good correlation. Log depths are generally 6 to 14 ft shallower than rig depths. Rig crews collected unlagged 30-ft samples from 85' to 790'. Mud loggers collected lagged 30-ft samples from 790' - 1400' and, depending upon penetration rate, 10-ft to 30-ft samples from 1400' to 11700' rig TD. 5-ft samples were taken through key intervals.

Grain size was determined by use of the American Stratigraphic Company comparator. Colors of dry cuttings were determined from the Rock-Color Chart distributed by the Geological Society of America. 10% HCl was used in acid reaction tests.

Cut tests for hydrocarbons were performed with tricholoroethylene. Significant shows are marked in the left margin; lesser indications of hydrocarbons are contained in sample descriptions. Samples were examined for fluorescence with a Corvascope and a conventional UV box.

GREEN RIVER

Note:	13 3/8" casing set at 784' log depth, 790' rig depth.
784' - 814'	Siltstone and Sandstone; very light to light gray; very fine grained; well sorted; firm; slightly calcareous; argillaceous; mostly no porosity visible. Lesser Shale; medium light gray, some tinted greenish gray; partly silty; firm; slightly calcareous; platy, subblocky. No show.
814' - 830'	Sandstone; very light gray; very fine to some fine grained; well sorted; firm; calcareous; slightly to moderately peppered; less argillaceous; trace very pyritic; no porosity visible. Also Shale; medium gray, minor greenish gray; smooth; firm; slightly calcareous; platy, subblocky. No show.
830' - 891'	Shale; medium gray; smooth to some silty; firm; slightly calcareous; some micaceous; platy, subblocky. 10% to 20% Shale; pale yellowish brown, brownish gray; dolomitic; moderately hard; subblocky, blocky; grades to impure dolomite. No show.
891' - 922'	Minor Limy Dolomite; pinkish gray (buff) to pale yellowish brown; microcrystalline; firm; slightly argillaceous; forms slight bubbly film in acid; no porosity visible. No show.

Anschutz Exploration Corporation
Texas Creek #14-22

LITHOLOGY AND SHOWS

Mostly Shale; dark yellowish brown to dusky yellowish brown and brownish gray to some brownish black; smooth; firm; non- to slightly calcareous; oil shale in part--no fluorescence but moderately slow non- to faintly streaming cut fluorescence dries to faint to moderate brown oil rings. Total gas 2-8-2 units.

922' - 950' Shale; medium gray; smooth; firm; slightly calcareous; platy, subblocky. No show.

950' - 993' Sandstone; light to medium light gray; very fine to lower fine grained; subangular; well sorted; slightly peppered; rare pink-orange grains; partly argillaceous; no porosity visible. Also Shale; medium gray; smooth; firm; slightly calcareous; possible carbonaceous flecks in part. No show.

993' - 1009' Shale; pale to dark yellowish brown and brownish gray to minor brownish black; smooth; firm; non- to slightly calcareous; platy, subblocky. No fluorescence but slow weak nonstreaming cut fluorescence dries to virtually no fluorescent halo or oil ring. Total gas 1-49-5 units.

1009' - 1048' Shale; medium gray, some tinted light brownish gray; smooth; firm; slightly to moderately calcareous; platy, subblocky. No show.

1048' - 1100' Shale; pale to dusky yellowish brown and brownish gray; smooth; firm, some moderately hard; non- to slightly calcareous; much is platy, trace splintery. No fluorescence but slow to moderately fast non- to slightly streaming cut fluorescence dries to faint fluorescent halo and fair brown oil ring. Total gas 20-55 units.

1100' - 1140' Limestone; pale yellowish brown mottled medium gray; very fossiliferous, probable ostracodes; moderately argillaceous, forms bubbly brown film in acid; no porosity visible. Also minor Sandstone; medium light to medium gray; fine grained; subangular; very calcareous; grades to sandy limestone. Minor Shale; yellowish brown; calcareous; platy. Mostly no show; trace bright spotty yellow oil fluorescence and moderately fast slightly streaming cut fluorescence in shale. Total gas 20-50 units.

1140' - 1160' Sandstone; light gray, greenish gray; very fine to some lower fine grained; subangular; well sorted; firm; calcareous; argillaceous; slightly peppered; rare orange grains; no porosity visible. Also Shale; medium gray, greenish gray; smooth to very fine grained sandy; firm;

LITHOLOGY AND SHOWS

slightly calcareous; platy, subblocky. No show.

1160' - 1190' Shale; grayish red, much tinted grayish red purple, some dusky yellow and minor greenish gray--commonly variegated; smooth; firm to moderately soft; non- to slightly calcareous, flakes slightly in dilute HCl; subblocky, some platy. No show.

1190' - 1216' Shale; grayish red, greenish gray; smooth; firm; slightly calcareous; subblocky. No show.

1216' - 1227' Sandstone; light gray; very fine to lower fine grained; subangular; well sorted; firm; calcareous; slightly peppered; trace orange grains; no porosity visible. No show.

1227' - 1254' Shale; medium gray, greenish gray, some dusky yellow--commonly mottled; smooth, some waxy; firm; non- to slightly calcareous; subblocky. No show.

1254' - 1280' Sandstone; light gray; very fine to lower fine grained; subanglular; well sorted; firm; calcareous; slightly peppered; trace carbonaceous; trace mica; rare orange grains; no porosity visible, slightly slower drilling. No sample show. Total gas 8 to 40 units.

1280' - 1321' Shale; medium light gray; smooth; firm; slightly calcareous; platy, subblocky. No show.

1321' - 1340' Limestone; pale yellowish brown, some medium gray mottling; oolitic; part highly fossilferous--probable ostracodes; clean to slightly argillaceous; mostly no porosity visible, few unfilled shells. Minor streaks Shale; medium dark to dark gray; smooth; firm; slightly calcareous; platy, subblocky.

Minor Show: Limestone: No stain. 10% bright spottly bluish yellow fluorescence yields moderately fast slightly streaming cut fluorescence and fair fluorescent yellow halo. Under white light, no cut but light brown oil ring visible to unaided eye.

Hot-wire Gas: Total gas 36-240-60 units; C1 only.

Anschutz Exploration Corporation
Texas Creek #14-22

LITHOLOGY AND SHOWS

1340' - 1400' Limestone; pinkish gray (buff); microcrystalline; firm; slightly argillaceous; some oolitic, trace fossiliferous; no porosity visible. Also Shale; varicolored uphole, mostly medium gray and greenish gray downhole; smooth; firm, some moderately soft. No show.

WASATCH TOP: 1400' DATUM: +4269'

Remark: Top is based on lagged samples; no good drilling break.

1400' - 1436' Shale; grayish to dusky red, some dark reddish brown, minor greenish gray; smooth; firm, some moderately soft; calcareous; subblocky, blocky. No show.

1436' - 1475' Sandstone; light gray; fine to medium grained; angular to subrounded; moderately well sorted; mostly loose; slightly peppered; yellowish-orange and pink-orange grains common; fair intergranular porosity in rare clusters; fast drilling break 1462' - 1469' to 0.5 min/ft average. No sample show.

Hot-wire Gas: Total gas 40-260-80 units; C1 only.

1475' - 1490' Shale; varicolored, grayish red, greenish gray, minor dusky yellow; smooth to silty, sandy; firm, some moderately soft; calcareous; subblocky, blocky. Also Siltstone/Sandstone; light greenish gray; very fine grained; mostly very argillaceous; firm to soft; calcareous; no porosity visible. No show.

1490' - 1536' Shale; medium gray, tinted greenish; smooth to silty, sandy; firm, some soft; slightly calcareous; subblocky, blocky, Lesser Sandstone; medium light gray; very fine grained; silty, argillaceous; calcareous; no porosity visible. No show.

1536' - 1573' Sandstone; light gray; fine to medium grained; angular to subrounded; moderately well sorted; loose grains and firm clusters; calcareous; peppered; yellowish orange and

LITHOLOGY AND SHOWS

pink-orange grains common; fair porosity visible in clusters, fast drilling break 1548' - 1575' to 0.4 min/ft. No sample show.

Hot-wire Gas: Total gas 100-960-520 units; C1 only.

Note: Well flowed 1 1/2" stream of drilling mud during survey. Probable water flow--mud was not gas cut and hole made enough water that rig water was turned off to pits. Solids were allowed to increase mud weight slightly.

1573' - 1610' Shale; grayish red and some dark reddish brown, lesser greenish gray; smooth; firm to soft; slightly calcareous; subblocky, blocky. No show.

1610' - 1640' Shale; medium to medium dark gray, greenish gray, lesser varicolored grayish red, grayish red purple, and dusky yellow; smooth to silty, very fine sandy; firm, moderately soft; non- to slightly calcareous; subblocky, blocky. No show.

1640' - 1670' Shale; medium gray, greenish gray, grayish red, minor dusky yellow. Minor Sandstone; medium light gray, part tinted greenish gray; very fine to lower fine grained; calcareous; much is argillaceous; no porosity visible. No show.

1670' - 1697' Shale; medium gray, greenish gray, minor grayish red; mostly smooth; firm, moderately soft; calcareous; minor very fine to fine grained sandstone streaks; subblocky, blocky. No show.

1697' - 1710' Sandstone; light gray; fine grained; angular to subrounded; well sorted; firm; calcareous; part argillaceous; peppered; rare pink-orange grains; no porosity visible. No show. Total gas background 350 units.

1710' - 1740' Shale; grayish red to dark reddish brown, some medium gray to brownish gray; smooth; firm, some moderately soft; calcareous; subblocky, blocky. No show.

1740' - 1778' Shale; medium light to medium gray; smooth to silty, very fine grained sandy; firm, some soft; calcareous; platy, subblocky. Lesser Siltstone/Sandstone; light to medium light gray; very fine grained; no porosity visible. No show.

Anschutz Exploration Corporation
Texas Creek #14-22

LITHOLOGY AND SHOWS

1778' - 1870' Shale; medium light to medium gray, some greenish gray, minor grayish red, trace light olive gray; smooth, some very fine grained sandy; firm, moderately soft; slightly calcareous; subblocky, blocky. Minor streaks of Sandstone; light gray; very fine to fine grained; subangular, subrounded; moderately well sorted; firm; calcareous; peppered; trace pink-orange grains; no porosity visible. No show.

1870' - 1930' Shale; gray, greenish gray, some light brownish gray, minor grayish red. Lesser Sandstone; light gray, trace white; very fine to fine grained; subangular, subrounded; firm; calcareous; commonly argillaceous, little clean; peppered; no porosity visible. Minor Limestone; light brownish gray, pale yellowish brown; microcrystalline; argillaceous; no porosity visible. No show.

1930' - 1990' Shale; grayish red, lesser medium gray, trace dusky yellow; smooth; firm, some moderately soft; slightly calcareous; subblocky, blocky. Lesser Sandstone; very light gray; very fine to fine grained; subangular; moderately well sorted; firm; calcareous; peppered, some biotite; trace orange grains; no porosity visible. Trace Limestone; yellowish brown; crypto- to microcrystalline; moderately hard; argillaceous; no porosity visible. No show.

1990' - 2020' Shale; medium light to medium gray, minor brownish gray and little grayish red and dark reddish brown; smooth, some silty, sandy; firm; calcareous; coarse platy to blocky. Also Sandstone; medium light gray, some tinted greenish gray; very fine grained; firm; calcareous; argillaceous; slightly peppered; no porosity visible. No show.

2020' - 2080' Shale; varicolored: greenish gray, medium light to medium gray, some tinted grayish red purple, minor brownish gray, grayish red, and dark reddish brown; smooth, little sandy; firm; calcareous; platy to blocky. Minor Sanstone; medium light gray; very fine grained; firm; calcareous; argillaceous; no porosity visible. Minor Limestone; pinkish gray (buff) to pale yellowish brown; microcrystalline; dense; slightly argillaceous; no porosity visible. No show.

2080' - 2110' Sandstone; light gray; very fine grained; well sorted; firm; calcareous; peppered; slightly carbonaceous; trace orange grains; no porosity visible. Also Shale; medium light to medium gray, brownish gray. 20% Coal and Coaly

Anschutz Exploration Corporation
Texas Creek #14-22

LITHOLOGY AND SHOWS

Shale; brownish black, dusky yellowish brown, some black. No fluorescence; no cut attempted.

2110' - 2152' — Logs show Sandstone; gas 2142' - 2152'. No samples; samples were circulated through choke to reserve pit. Good drill break 2150' - 2158' rig depth.

Gas Kick: — Gas blew mud 10-15 ft above floor while drilling at 2159'. Well was then shut in. Hot-wire gas 2200+ units, C1 only. 5400 units maximum while circulating to kill well. 300 psi final drill pipe shut-in pressure; 650 psi final casing shut-in pressure. Increased mud weight from 8.9+ lb/gal to 10.8 lb/gal to kill well.

2152' - 2169' — Shale; grayish red to dark reddish brown, medium to medium dark gray, greenish gray, grayish red purple, trace dusky yellow--part mottled; smooth; firm, some moderately soft; non- to slightly calcareous; subblocky, irregular blocky. No show.

2169' - 2184' — Limestone; light brownish gray; cryptocrystalline; some oolitic, fossilferous--probable ostracodes; dense, moderately hard; slightly argillaceous; no porosity visible. Increasing Shale; grayish red to dark reddish brown, some tinted grayish red purple, greenish gray, brownish gray, trace dusky yellow; mostly smooth; firm, moderately soft; slightly calcareous; subblocky, blocky. No show. Total gas 40-30 units.

2184' - 2190' — Shale; varicolored, increased medium dark gray and brownish gray; some finely carbonaceous; subblocky, blocky. Minor Limestone; medium dark gray, tinted brownish gray; microcrystalline; fossiliferous--shell fragments to 3 mm filled with white calcite; argillaceous, forms bubbly brown film in acid; no porosity visible. Trace Sandstone; brownish gray; very fine grained; argillaceous; no porosity visible. No show. Total gas 20 units.

2190' - 2221' — Shale; grayish red to dark reddish brown, medium gray, greenish gray, grayish red purple, minor dusky yellow to light olive brown; mostly smooth; firm; slightly calcareous; subblocky, blocky. No show.

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2221' - 2236'	Sandstone; light gray, tinted light greenish gray; fine grained; subangular; moderately well sorted; firm; noncalcareous; peppered; argillaceous; no porosity visible. Trace Limestone; light brownish gray; cryptocrystalline; dense; no porosity visible; possibly caving. No show.
2236' - 2247'	Shale; varicolored. Minor Sandstone; very light gray; very fine grained; noncalcareous; slightly peppered; no porosity visible. No show.
2247' - 2280'	Sandstone; light brownish to brownish gray; fine to coarse grained, coarsens downhole; angular, subangular; moderately well sorted; firm, some moderately hard; slightly calcareous; part pyritic; numerous dark gray to black lithics increase downhole; minor greenish gray and pink-orange grains; some light colored clay fill uphole; fair to good porosity visible, improves downhole. Some interbedded Shale; varicolored and medium to medium dark gray, some coaly and slightly pyritic brownish black downhole; slightly to noncalcareous; subblocky to blocky. No show.
2280' - 2290'	Shale; varicolored and lesser carbonaceous dark brownish gray to brownish black; firm; part calcareous; platy to subblocky. Minor Sandstone; light gray, tinted light brownish gray in part; fine to medium grained; subangular; moderately well sorted; firm; non- to slightly calcareous; peppered; white clay fill in part; no to slight porosity visible. No show.
2290' - 2300'	Shale; varicolored, grayish red to dark reddish brown, medium gray to brownish gray, greenish gray, minor dusky yellow mottling; mostly smooth, some sandy streaks; firm; calcareous; subblocky, irregular blocky. Lesser Sandstone; light gray; loose fine to coarse grains; mostly quartz; peppered; rare clusters are firm to friable and commonly white clay filled--mostly no porosity visible. No show.
2300' - 2310'	Coal; black. Total gas 200 units.
2310' - 2325'	In samples, Shale; dark brownish gray; firm; non- to slightly calcareous; some carbonaceous inclusions and coaly partings; subblocky. Logs indicate Sandstone. No show.

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MESA VERDE FM. TOP: 2325' DATUM: +3344'

2325' - 2333' Shale; brownish gray, some greenish gray; smooth to very fine grained sandy; firm; non- to slightly calcarous; part carbonaceous; subblocky. Minor Sandstone; medium gray, tinted greenish to brownish gray; very fine to lower fine grained; carbonaceous; argillaceous; no porosity visible. No show.

2333' - 2340' Sandstone; light gray; fine to medium grained; subangular; moderately well sorted; firm; non- to slightly calcareous; peppered; part carbonaceous; white clay fill common; rare pink-orange grains; no to slight porosity visible. No show. Also Shale; brownish to dark brownish gray, greenish gray, minor grayish red. No show.

2340' - 2354' Logs favor Sandstone; medium light gray, light brownish gray; very fine to lower fine grained; firm; slightly to moderately calcareous; argillaceous; peppered; carbonaceous; no porosity visible. No show.

2354' - 2360' Shale; medium to medium dark gray, brownish to dark brownish gray, minor greenish gray; smooth, some silty and very fine grained sandy; firm; slightly calcareous; part carbonaceous; platy, subblocky. Minor Sandstone; medium gray, tinted brownish gray; very fine grained; dirty, partly carbonaceous; no porosity visible. No show.

Note: Started trip for bit at 2384'. Pulled 14 stands; well began flowing due to gas. Shut-in well. Tripped back in 12 stands and increased mud weight to 11 lb/gal. Short trip gas 3500 units; 100% C1. Circulated through choke, then opened Hydril. Maximum total gas 8400 units; 98% C1, 1% C2, trace C3. At start of trip, total gas 130 units, 100% C1. Tripped for bit; bit #3 Smith F1 in at 2384'.

2360' - 2370' Poor sample quality; lagged after trip. Shale; varicolored. No show.

2370' - 2386' Questionable sample quality. Sandstone; light gray; loose fine to medium grains; some small clusters are peppered; moderately friable; calcareous; white clay fill in part; slight to fair porosity visible in clusters. No sample show; no hot-wire gas through most of interval due to bypassed shaker.

2386' - 2400' 10% Coal; black. Sandstone; light gray; fine to medium grained; subangular; moderately well sorted; firm;

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calcareous; peppered; some white clay fill; no to slight porosity visible. Also Shale; drab tinted medium to medium dark gray; smooth to some silty, sandy; firm; non- to slightly calcareous; platy, subblocky. No show.

2400' - 2408' Shale; drab tinted medium to medium dark gray; smooth, some silty, very fine grained sandy; firm; slightly calcareous; some carbonaceous inclusions; platy, subblocky. Minor Sandstone. No show.

2408' - 2430' Sandstone; light to medium light gray; very fine to fine grained; subangular; moderately well sorted; firm, some moderately hard; calcareous; part argillaceous; peppered; some carbonaceous; rare pink-orange grains; no to slight porosity visible. Interbedded Shale; brownish to dark brownish gray; smooth to silty; firm; slightly calcareous; carbonaceous; platy, subblocky. No show.

2430' - 2440' Shale; medium to medium dark gray, brownish gray tint common, minor greenish gray; smooth to silty, very fine grained sandy; firm; slightly calcareous; mostly subblocky. Minor Sandstone; light to medium light gray; very fine to fine grained; no to slight porosity visible. No show.

2440' - 2460' Shale; medium dark gray tinted brownish gray, dark brownish gray, minor greenish gray. Also Sandstone; light to medium light gray; very fine to fine grained; firm; calcareous; peppered; part carbonaceous; part argillaceous; some white clay fill; trace orange grains; mostly no porosity visible. No show.

2460' - 2490' Questionable sample quality: Shale; much greenish gray, increased grayish red, also drab tinted medium to medium dark gray, brownish gray. Downhole, minor Sandstone; light to medium light gray; very fine to fine grained; firm; calcareous; peppered; mostly no porosity visible. No show.

2490' - 2550' Shale; medium to increasingly medium dark gray--drab tinted; smooth, some silty, very fine grained sandy; firm; slightly calcareous; part carbonaceous; platy, subblocky. Lesser interbedded Sandstone; light to medium light gray; very fine to fine grained; subangular; moderately well sorted; firm; calcareous; peppered; part argillaceous; some white clay fill; mostly no porosity visible. No sample show. Total gas 10 to 90 units.

2550' - 2560' Sandstone; light gray; fine to medium grained; subangular, subrounded; moderately well sorted; loose grains and friable

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to firm clusters; calcareous; peppered; some carbonaceous inclusions; white clay fill in part; fair porosity visible in clusters; overall slow drilling. No show.

2560' - 2570' — Shale; brownish to dark brownish gray, some brownish black; smooth to silty; firm, some moderately soft; noncalcareous; carbonaceous, some coaly streaks; platy, subblocky. No sample show. Total gas 30-140 units.

2570' - 2580' — Sandstone; light gray; fine to medium grained; subangular, subrounded; moderately well sorted; much loose sand, some firm clusters; non- to slightly calcareous; peppered; some white clay fill; no to slight porosity visible in clusters; overall slower drilling. No sample show. Total gas 150-300 units.

2580' - 2590' — Shale; medium dark gray drab tinted, brownish to dark brownish gray; smooth to silty, sandy; firm; slightly calcareous; platy, subblocky. Also Sandstone; light gray; fine to medium grained; similar to above; slight porosity visible. No sample show. Total gas 250-20 units.

2590' - 2600' — Sandstone; light to some medium light gray; fine grained; subangular, subrounded; well sorted; firm; calcareous; peppered; some white clay fill; no to some fair porosity visible. No show. Total gas 25 units.

2600' - 2620' — Sandstone; light to medium light gray; very fine to lower fine grained, minor medium grained; subangular; moderately well sorted; firm; calcareous; peppered, part carbonaceous; much is slightly to moderately argillaceous; some laminated; no to some slight porosity visible. Lesser Shale; medium dark to dark gray, brownish gray, some tinted olive gray to greenish gray; smooth to silty; firm; non- to slightly calcareous; some carbonaceous to coaly partings; platy, subblocky. No show.

2620' - 2650' — Shale; medium dark gray, brownish gray; smooth to silty, some very fine grained sandy; firm; non- to slightly calcareous; part carbonaceous, minor coaly streaks; platy, subblocky. Increasing downhole, Sandstone; light to medium light gray; very fine to lower fine grained; subangular, subround; moderately well sorted; firm; calcareous; peppered; some carbonaceous; some white clay fill; part argillaceous; mostly no porosity visible. No show.

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2650' - 2670' Shale; medium dark gray, much tinted brownish gray, some olive to greenish gray downhole; smooth to silty, some very fine grained sandy; firm; non- to slightly calcareous; part carbonaceous; platy, subblocky. Downhole, lesser Sandstone; medium light gray, light brownish gray; very fine grained; firm; non- to some slightly calcareous; much argillaceous; part carbonaceous; peppered; no porosity visible. No show.

2670' - 2680' Sandstone; light to medium light gray; very fine to lower fine grained; subangular; moderately well sorted; firm; calcareous; peppered; white clay fill common; trace pink-orange grains; no porosity visible. No show.

2680' - 2690' Shale; medium dark gray, tinted brownish gray; smooth to silty; firm; non- to moderately calcareous; part carbonaceous; platy to some blocky. Minor Sandstone; light to medium light gray; as above. No show.

2690' - 2700' Shale; medium dark gray, brownish gray; smooth to much silty, very fine grained sandy; firm; non- to slightly calcareous; carbonaceous; platy to blocky. Lesser Sandstone; medium light gray, light brownish to brownish gray; very fine to lower fine grained; subangular; firm; slightly to moderately calcareous; argillaceous; peppered; commonly carbonaceous; no porosity visible. No show.

2700' - 2710' Shale; medium dark to dark gray, brownish gray; smooth, some silty, very fine grained sandy; firm; slightly calcareous; carbonaceous, some coaly partings; trace pyrite; platy to blocky. Minor Sandstone; medium light to medium gray; very fine grained; argillaceous; no porosity visible. No show.

2710' - 2720' Sandstone; light brownish gray; very fine to lower fine grained; firm; slightly calcareous; argillaceous; carbonaceous; no porosity visible. No show.

2720' - 2750' Sandstone; light to medium light gray; very fine to lower fine grained; firm; calcareous; peppered; less carbonaceous; no porosity visible. Minor interbedded Shale; medium dark to dark gray, brownish gray; part carbonaceous; platy to blocky. No show.

2750' - 2780' Shale; medium dark to dark gray, brownish gray; firm; non- to slightly calcareous; part carbonaceous; platy, some blocky. Also Sandstone; light brownish gray, downhole light to medium light gray; very fine to some fine grained;

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subangular; moderately well sorted; firm; non- to slightly calcareous; peppered; part carbonaceous; mostly no to minor slight porosity visible. No show.

2780' - 2790' — Shale; brownish gray to nearly brownish black, some dusky yellowish brown; smooth to some silty, very fine grained sandy; firm; non- to slightly calcareous; appears organic rich; carbonaceous to slightly coaly--trace loose coal; platy, subblocky. No fluorescence. Slow nonstreaming yellowish blue cut fluorescence dries to weak fluorescent halo. Under white light, no cut but microscopic yellowish brown oil ring.

2790' - 2804' — Sandstone; light gray, some tinted light brownish gray; very fine to lower fine grained; subangular; moderately well sorted; firm; calcareous; peppered; some brownish black carbonaceous to coaly laminae; mostly no porosity visible. Lesser Shale; brownish gray to nearly brownish black. No show.

2804' - 2816' — Sandstone; light to medium light gray; very fine grained, some fine to lower medium grained; subangular, subrounded; well to moderately well sorted; firm; calcareous; some white clay fill; peppered; rare pink-orange grains; no to some slight porosity visible. Lesser Shale; brownish gray, medium dark to dark gray; smooth to silty, sandy. No show.

2816' - 2840' — Interbedded. Shale; medium dark gray, some brownish gray; smooth, some silty, very fine grained sandy; firm; slightly calcareous; part carbonaceous; platy, subblocky. Sandstone; light to medium light gray; very fine to some fine grained; subangular; moderately well sorted; firm; slightly to moderately calcareous; peppered; some brownish black carbonaceous to coaly partings; white clay fill common; mostly no porosity visible. No show.

Note: At 2855' made wiper trip to base of casing. On trip in worked tight hole 2250' - 2350' and 2550' - 2650'. Washed 80 ft to bottom; 5 ft of fill.

Short trip gas 135 units; 100% C1, Tr C2, Tr C3.

2840' - 2880' — Shale; medium dark gray, brownish gray; smooth, some silty; firm to moderately soft; slightly calcareous; platy, subblocky. Minor Sandstone; light to medium light gray, light brownish gray; very fine to lower fine grained; firm, some quite friable; calcareous; peppered; argillaceous; part carbonaceous, minor coaly streaks; no porosity visible. 2%

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to trace Coal; black. No show.

2880' - 2910' — Shale; medium dark gray to trace dark gray, brownish gray; smooth to silty, very fine grained sandy; firm, moderately soft; slightly calcareous; platy, subblocky. Minor Sandstone; light to medium light gray, some light brownish gray; no porosity visible. 5% to 30% Limestone; pale yellowish brown; microcrystalline; firm, moderately hard; argillaceous; no porosity visible. No show.

2910' - 2922' — Shale; medium to medium dark gray, brownish gray; smooth to silty; firm, some quite soft; slightly calcareous; some carbonaceous; platy, subblocky. Lesser Sandstone; medium light gray, light brownish gray; very fine to some fine grained; firm; calcareous; slightly peppered; some very argillaceous; no porosity visible. No show.

2922' - 2970' — Sandstone; light gray; fine to medium grained; subangular, subrounded; well sorted; loose sand and some firm to friable clusters; calcareous; much white clay fill; peppered; trace pink-orange to yellow-orange grains; no porosity visible in clusters but fast drilling break 2930' - 2966'. At 2950' - 2960', some Shale; dark brownish gray to dusky yellowish brown, streaks brownish black; carbonaceous, coaly; platy, subblocky. No show.

2970' - 2988' — Sandstone; medium light gray; very fine grained; firm, quite soft; slightly calcareous; argillaceous; slightly carbonaceous; no porosity visible. Lesser Siltstone; medium light gray; very argillaceous and Shale; medium light to medium gray; smooth to very silty. No show. Total gas 8 units.

2988' - 3000' — Shale; medium light to medium dark gray, light brownish to brownish gray; smooth to silty, very fine grained sandy; firm, some quite soft; non- to some slightly calcareous; some carbonaceous; platy, subblocky. Lesser Sandstone; light to medium light gray, light brownish gray; very fine and fine grained clusters, some loose medium grains; subangular, subrounded; firm, some friable; slightly calcareous; much is argillaceous; peppered; no porosity visible. No show. Total gas 10 units.

3000' - 3030' — 10% to Trace Bentonite; light olive gray; waxy, part minutely flecked; moderately soft; flakes slightly in dilute HCl. Shale; some medium light gray, much medium to medium dark gray, downhole some dark gray and increasing brownish gray; carbonaceous and thin coaly streaks where brownish;

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bentonitic where lighter colored; firm to moderately soft; non- to slightly calcareous; platy to blocky. Minor streaks of Sandstone; medium light gray, light brownish gray; very fine grained; firm; slightly calcareous; argillaceous; peppered; no porosity visible. No show. Total gas 10-30 units.

3030' - 3040' Sandstone; light brownish gray, medium light gray; very fine to fine grained; subangular; moderately well sorted; firm, slightly friable; non- to slightly calcareous; argillaceous; peppered; no porosity visible. Also Shale; medium dark to some dark gray, brownish gray; smooth to silty and very fine grained sandy; firm; noncalcareous; carbonaceous, trace coaly streaks; platy, subblocky. No show. Total gas 30-40 units.

3040' - 3050' Shale; medium dark to dark gray, brownish gray. Also Sandstone; light gray; fine to medium grained; subangular; moderately well sorted; firm, slightly friable, some loose grains; calcareous; peppered; much white clay fill; mostly no porosity visible. No sample show. Total gas 30-70 units.

3050' - 3060' Shale; medium light to medium dark gray, brownish gray, some tinted olive gray; smooth to some silty, very fine grained sandy; firm; non- to slightly calcareous; platy to blocky. Trace Limestone; light brownish gray; microcrystalline; moderately hard; argillaceous; no porosity visible. Minor Sandstone; light to medium light gray; very fine to fine grained; argillaceous; no porosity visible. No sample show. Total gas 35-100 units.

3060' - 3072' Sandstone; light gray; fine to lower medium grained; subangular; moderately well sorted; firm; slightly calcareous; much white clay fill; peppered; trace pink-orange grains; no to some slight porosity visible. No sample show. Total gas 100-40 units.

3072' - 3080' Shale; brownish gray; silty; firm; noncalcareous; carbonaceous; subblocky. Lesser Shale; medium dark to dark gray; smooth to silty; firm; platy to blocky. No show. Total gas 40-70 units.

3080' - 3090' Shale; medium to medium dark gray, some brownish gray; smooth to silty, very fine grained sandy; firm; slightly calcareous; some carbonaceous; subblocky. Also Sandstone; light to medium light gray, some tinted light brownish gray; very fine to fine grained; firm; calcareous; peppered; part

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	argillaceous; white clay fill in part; no porosity visible. Grades to some Siltstone; medium light to medium gray, part tinted light brownish gray; argillaceous, very fine grained sandy; slightly carbonaceous; subblocky. No sample show. Total gas 70-10 units.
3090' - 3111'	Sandstone; light gray; very fine to fine grained; subangular; well sorted; firm; calcareous; peppered; white clay fill common; some brownish gray argillaceous and partly carbonaceous laminae; no to some slight porosity visible. No sample show. Total gas 10-60 units.
3111' - 3132'	Shale; brownish to dark brownish gray; smooth to silty; firm; noncalcareous; carbonaceous; subblocky, blocky. Downhole, minor Sandstone; light brownish gray, some medium light gray; very fine to some fine grained; subangular; moderately well sorted; firm; slightly calcareous; peppered; argillaceous; some carbonaceous; no porosity visible. No show. Total gas 60-40 units.
3132' - 3167'	Sandstone; light gray; fine to lower medium grained; subangular; well sorted; firm; slightly calcareous; peppered; white clay fill common; no to some slight porosity visible. Some Shale; medium dark to dark gray, brownish to dark brownish gray; smooth to silty; firm; non- to slightly calcareous; part carbonaceous; platy, subblocky. No show. Total gas 60-10 units.
3167' - 3180'	Shale; medium to medium dark gray, brownish gray, some tinted olive gray; smooth, some silty; firm; non- to slightly calcareous; part carbonaceous; platy to blocky. Trace Siltstone; light brownish gray; argillaceous. Minor Sandstone; light gray; fine grained; peppered; no porosity visible. No show. Total gas 25-15 units.
3180' - 3190'	Shale; brownish to dark brownish gray, some medium gray and little greenish to olive gray; smooth to silty; firm; noncalcareous; carbonaceous, slightly coaly; subblocky, blocky. No show. Total gas 15-25 units.
3190' - 3200'	Shale; medium dark gray, brownish gray, little tinted greenish to olive gray; smooth and slightly waxy to silty; firm; non- to slightly calcareous; less carbonaceous; platy to subblocky. Minor Sandstone; medium light gray; very fine to fine grained; dirty; no porosity visible. No show. Total gas 10-25 units.

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Note:	12 stand wiper trip at at 3201'. On trip out, tight at 2950' - 3000'. On trip in, tight 2636' - 2730' and 2775' - 2975'. Washed and reamed 2975' - 3053' and 3151' - 3201'. Short trip gas 150 units.
3200' - 3210'	Sandstone; light gray; very fine to fine grained; subangular; well sorted; firm; slightly calcareous; white clay fill common; peppered; no porosity visible. Lesser Shale; medium dark gray, brownish gray; smooth, some silty; firm; non- to slightly calcareous; platy, subblocky. Trace Coal. No sample show. Total gas 65-35 units.
3210' - 3250'	Sandstone; light gray, some tinted light brownish gray; fine to very fine grained; subangular; firm; calcareous; white clay fill common; peppered; rare pink-orange grains; mostly no porosity visible. Lesser Shale; medium dark gray, brownish gray; smooth to much silty; firm; calcareous; some laminated; grades to minor argillaceous siltstone; part carbonaceous; platy, subblocky. No show. Total gas 40-25 units.
3250' - 3286'	Sandstone; light gray, little tinted light brownish gray; some very fine to mostly fine grained; subangular; moderately well sorted; firm, some quite friable; calcareous; white clay fill common; peppered; mostly no to minor slight porosity visible. Minor Shale; brownish gray to some brownish black, some medium to medium dark gray; smooth, some silty; firm; non- to slightly calcareous; carbonaceous, some coaly partings; platy, subblocky. No show. Total gas 25-35 units.
3286' - 3309'	Uphole, Sandstone; light gray, light brownish gray; very fine to fine grained; quite friable to firm; slightly calcareous; some very clayey; peppered; no porosity visible. Increasing Shale; brownish gray to some brownish black, some medium dark gray; smooth, some silty; soft to firm; mostly noncalcareou; very carbonaceous, trace coal; platy, subblocky. No sample show. Total gas 15-80 units.
3309' - 3330'	Sandstone; light brownish gray, some light gray; very fine to fine grained; subangular; much is argillaceous; peppered; partly carbonaceous; calcareous; no porosity visible. Also Shale; medium dark to dark gray, brownish to dark brownish gray; smooth to silty, sandy; moderately soft to firm; non- to some calcareous; much is carbonaceous; platy, subblocky. No sample show. Total gas 80-15 units.

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3330' - 3342'	Shale; medium dark to dark gray, brownish to dark brownish gray; smooth to silty, sandy; moderately soft to firm; non- to some calcareous; much is carbonaceous; platy, subblocky. No sample show. Total gas 15-70 units.
3342' - 3380'	Shale; medium to dark gray, some tinted olive gray, brownish to dark brownish gray, some greenish gray; minor grayish red cavings from Wasatch; smooth to some silty, very fine grained sandy; firm; non- to some slightly calcareous; carbonaceous where brownish; platy to blocky. Minor Sandstone streaks; medium light to light brownish gray; very fine grained; argillaceous; peppered; no porosity visible. 1% to trace Coal. No show. Total gas 20-180 units.
3380' - 3390'	Sandstone; light gray; very fine to lower fine grained; subangular; well sorted; firm, slightly friable; slightly calcareous; white clay fill common; peppered; no to some slight porosity visible; fair drilling break 3396' - 3407'. Also Shale; medium dark to dark gray, some brownish gray; mostly smooth; firm; noncalcareous; platy, subblocky. No sample show. No total gas; gas sample line plugged.
3390' - 3466'	Shale; medium dark to some dark gray, part tinted olive gray, brownish to dark brownish gray, some greenish gray; smooth to some silty, very fine grained sandy; firm; non- to slightly calcareous; part carbonaceous; platy, subblocky. Minor Sandstone; medium light gray, light brownish gray; very fine grained; argillaceous; peppered; no porosity visible. In part, trace Coal; black. No sample show. No total gas to 60 units; gas sample line plugged with mud.
3466' - 3480'	Sandstone; light gray; very fine to lower fine grained; subangular; well sorted; firm; slightly calcareous; white clay fill common; peppered; some brownish black carbonaceous laminae; no to slight porosity visible; fair drilling break. Lesser Shale; brownish to dark brownish gray, trace brownish black; smooth, some silty; firm; noncalcareous; carbonaceous, slightly coaly; platy, subblocky. No sample show.
FID Gas:	Total gas 25-275-70 units; 95% C1, 5% C2.
3480' - 3492'	Shale; medium dark gray, brownish to dark brownish gray, some greenish to olive gray; smooth, some silty; firm; mostly noncalcareous; part carbonaceous; platy, subblocky.

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Minor Sandstone; light gray, some light brownish gray; very fine to lower fine grained; peppered; mostly no porosity visible. No show. Total gas 70-50 units.

3492' - 3519' Sandstone; light gray, some tinted light brownish gray; very fine to lower fine grained; subangular, subrounded; well sorted; firm; slightly calcareous; white clay fill common; peppered; no to slight porosity visible; fair drilling break. Downhole, some Shale; medium dark gray, brownish to dark brownish gray; smooth to silty, very fine grained sandy; firm; non- to slightly calcareous; carbonaceous and slightly coaly where brown; platy, subblocky. No sample show.

FID Gas: Total gas 50-360-80 units; 70% C1, 7% C2, 23% C3.

3519' - 3540' Shale; medium dark to dark gray, brownish to dark brownish gray, some tinted olive to greenish gray; smooth to silty, very fine grained sandy; firm; non- to slightly calcareous; carbonaceous; platy, subblocky. Minor Sandstone; light gray, light brownish gray; very fine to fine grained; subangular; slightly calcareous; peppered; part argillaceous; mostly no porosity visible. No show.

Note: Short tripped at 3543'; not tight. Short trip gas 850 units; 99% C1, 1% C2, trace C3.

Worked on pumps at 3546'. Drilled to 3553'. Twisted off; fished 8" drill collars without difficulty. Magnafluxed. New bit #4 Reed HP51A in at 3553'.

3540' - 3550' No sample.

3550' - 3560' Shale; medium dark to dark gray and brownish gray to some brownish black; smooth to silty; firm; non- to some slightly calcareous; part carbonaceous, slightly coaly; platy, subblocky. Also Sandstone; light brownish gray, some light gray; very fine grained; silty, argillaceous; firm to quite friable; slightly calcareous; peppered; no porosity visible. No show.

3560' - 3566' Shale; brownish gray to some brownish black; smooth, some silty and very fine grained sandy; quite soft to firm; non- to some slightly calcareous; carbonaceous, increasingly

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coaly; platy, subblocky. 5% Coal; black; small chips. Total gas 7-2 units.

3566' - 3584' Sandstone; light gray; very fine to some lower fine grained; subangular; well sorted; firm to slightly friable; slightly calcareous; white clay fill common; peppered; no to slight porosity visible. No sample show. No total gas readings.

3584' - 3594' Shale; brownish gray to some brownish black, some medium dark gray; smooth, some silty; firm; mostly noncalcareous; carbonaceous where brownish; platy, subblocky. 1% Coal. No sample show. No total gas readings.

3594' - 3604' Shale; medium dark gray, brownish gray. Also Siltstone; brownish gray; argillaceous, some very fine grained sandy; firm, moderately soft; slightly calcareous; peppered; subblocky, rounded. No sample show. No total gas readings.

3604' - 3632' Shale; brownish gray to some brownish black; smooth to silty; firm; mostly noncalcareous; carbonaceous, slightly coaly; platy, subblocky. Some Siltstone; brownish gray; argillaceous; peppered. Some Sandstone; light gray, part tinted light brownish gray; very fine to some lower fine grained; subangular; well sorted; firm; slightly calcareous; peppered; mostly no porosity visible. No sample show. No total gas readings.

3632' - 3642' Sandstone; light gray; very fine to some lower fine grained; subangular, subrounded; well sorted; firm, slightly friable; slightly calcareous; slightly peppered; slight porosity visible. No sample show. Total gas 20-60 units.

3642' - 3684' Shale; medium to medium dark gray, part tinted olive gray to greenish gray, and brownish gray; smooth, some silty; firm; non- to some slightly calcareous; part carbonaceous; platy, subblocky. Downhole, some Sandstone; light gray, light brownish gray; very fine to some lower fine grained; slightly calcareous; peppered; no porosity visible. No sample show. Total gas 20-50 units.

3684' - 3698' Shale; brownish gray to minor brownish black; smooth to much silty, very fine grained sandy; firm; non- to slightly calcareous; carbonaceous; platy, subblocky. Also Siltstone; brownish gray; argillaceous, some very fine grained sandy; firm, moderately soft; non- to slightly calcareous; carbonaceous, some coaly partings; subblocky, rounded. 1% Coal. No sample show; total gas 20-40 units.

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3698' - 3702'	Coal; black. Some Shale; brownish black; carbonaceous to coaly. Total gas 30-90 units.
3702' - 3712'	Sandstone; light brownish gray; very fine grained; silty, argillaceous; firm, moderately soft; slightly calcareous; peppered; grades to argillaceous siltstone; sno porosity visible. Lesser Shale; brownish to dark brownish gray; carbonaceous. No sample show. Total gas 90-40 units.
3712' - 3730'	Shale; brownish to dark brownish gray, downhole some brownish black; carbonaceous. 30% to 10% Sandstone; light brownish gray, some light gray; very fine grained; some silty, argillaceous--grades to siltstone; firm, moderately soft; slightly calcareous; peppered; carbonaceous. 5% to 2% Coal. No sample show. Total gas 40-620 units.
3730' - 3740'	Coal; black. Also Shale; dark brownish gray to brownish black; carbonaceous, coaly. No sample show. Total gas 45-150 units.
3740' - 3760'	Sandstone; light gray, tinted light brownish gray; very fine grained; well sorted; firm; noncalcareous; slightly peppered; no porosity visible. Also increasing Shale; brownish gray to minor brownish black; carbonaceous. No sample show. Total gas 550-40 units.
3760' - 3780'	Sandstone; light gray, faintly tinted light brownish gray; very fine grained; well sorted; firm; non- to slightly calcareous; slightly peppered; no to some slight porosity visible. Minor Shale; brownish gray, some brownish black; carbonaceous.
Trace Show:	No stain. Very dull solid yellow fluorescence may be largely mineral fluorescence. Moderately slow weak non- to some faintly streaming cut fluorescence dries to very faint fluorescent halo. Under white light, no cut or oil ring.
FID Gas:	Total gas 50-90 units.
3780' - 3790'	Shale; brownish gray to brownish black; smooth, some silty; firm, moderately soft; non- to slightly calcareous; carbonaceous; platy, subblocky. Lesser Sandstone; light gray, some light brownish gray; very fine grained, some lower fine grained; firm; non- to slightly calcareous;

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peppered; some dark carbonaceous partings; no porosity visible. No sample show. Total gas 30-35 units.

3790' - 3870' Interbedded. Sandstone; light gray, some tinted light brownish gray; very fine to some lower fine grained; subangular; well sorted; firm; non- to slightly calcareous; slightly peppered; some medium dark to dark gray laminae and dark brownish gray carbonaceous partings; no porosity visible. Also Shale; medium dark to some dark gray, brownish to some brownish black; smooth, some silty; firm; non- to slightly calcareous; carbonaceous where brownish; grades to some argillaceous and very fine grained brownish gray siltstone; platy to subblocky, some rounded. Trace to 5% Coal. No sample show. Total gas background 40-20 units, several peaks 70-150 units.

3870' - 3880' 10% Coal; black; some pyritic. Shale; brownish gray to some brownish black; smooth to silty; firm, some quite soft; non- to slightly calcareous; carbonaceous; platy, subblocky. Lesser Sandstone; light gray, light brownish gray; very fine grained; subangular; well sorted; firm; non- to slightly calcareous; peppered; no porosity visible. No sample show. Total gas 20-70 units.

3880' - 3890' Sandstone; light gray; very fine to lower fine grained; subangular; well sorted; firm, slightly friable; non- to slightly calcareous; white clay fill in part; peppered; some dark carbonaceous partings; rare pink-orange grains; no porosity visible. Also Shale; brownish gray to minor brownish black, some medium dark gray; smooth to silty, very fine grained sandy; firm; non- to slightly calcareous; platy to some rounded. Some Siltstone; brownish gray; very fine grained sandy; argillaceous; part carbonaceous; rounded. 1% Coal. No sample show. Total gas 20-25 units.

3890' - 3916' Interbedded. Shale; some light brownish gray, much brownish to dark brownish gray; smooth to silty and partly very fine grained sandy; firm; non- to slightly calcareous; carbonaceous; grades to some brownish gray argillaceous siltstone; platy and subblocky to some rounded. Lesser Sandstone; light gray, part tinted light brownish gray; very fine to some lower fine grained; subangular; well to moderately well sorted; firm, slightly friable; non- to slightly calcareous; some white clay fill, some argillaceous; peppered; mostly no porosity visible. Trace Coal. No sample show. Total gas 20-100 units.

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3916' - 3945'	Sandstone; light brownish gray, some light gray; very fine to lower fine grained; subangular; moderately well sorted; firm, some moderately hard; noncalcareous to moderately dolomitic; part argillaceous; peppered; no porosity visible; fair fast drilling break 3938' - 3949'. Lesser Shale; brownish gray. No sample show. Total gas 30-90 units.
3945' - 3960'	Shale; brownish to dark brownish gray, some brownish black; smooth to silty, partly very fine grained sandy; firm, some moderately soft; non- to some slightly calcareous; carbonaceous; platy, subblocky. Some Siltstone; brownish gray; argillaceous; carbonaceous; subblocky. Lesser Sandstone; light gray, light brownish gray; very fine to lower fine grained; subangular; peppered; no to some slight porosity visible. No show. Total gas 40-60 units.
3960' - 3990'	Shale; brownish gray to some brownish black, medium dark gray, some tinted olive to greenish gray; smooth to silty and very fine grained sandy; firm; non- to slightly calcareous; carbonaceous; platy, subblocky. Grades to some Siltstone; brownish gray; argillaceous; carbonaceous; subblocky, rounded. Downhole, some Sandstone; light gray, light brownish gray; very fine to lower fine grained; subangular; firm; non- to slightly calcareous; peppered; no porosity visible. Trace to 5% Coal; black. No show. Total gas 30-55 units.
3990' - 4005'	Sandstone; light gray, light brownish gray; very fine to lower fine grained; subangular; well sorted; firm, some slightly friable; non- to slightly calcareous; some white clay fill, part argillaceous and silty; peppered; no porosity visible. Some Siltstone; brownish gray. Lesser Shale; brownish gray, medium dark gray. No sample show. Total gas 40 units.
4005' - 4068'	Shale; uphole medium to medium dark gray, brownish gray, increasingly dark brownish gray downhole; smooth to silty, very fine grained sandy; firm; non- to slightly calcareous; carbonaceous where brownish; platy, subblocky. Some Siltstone; brownish gray; argillaceous, part very fine grained sandy; firm, moderately soft; non- to slightly calcareous; carbonaceous; subblocky. Minor streaks of Sandstone; light gray to light brownish gray; very fine grained; no porosity visible. 1% to 10% Coal; black. No show. Total gas 30-100 units.

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4068' - 4090' Sandstone; light gray; very fine to fine grained; subangular; well sorted; firm; slightly calcareous; some white clay fill; peppered; no to some slight porosity visible; fair drilling breaks. Lesser Shale; medium dark to dark gray, brownish gray to minor brownish black; smooth, some silty; firm; non- to some slightly calcareous; part carbonaceous; platy, subblocky. No sample show. Total gas 40-170 units.

4090' - 4108' No samples or FID gas readings; shaker bypassed.

4108' - 4113' Shale; medium dark gray, brownish gray to minor brownish black; smooth to silty; firm; non- to some slightly calcareous; carbonaceous, moderately coaly; platy, subblocky. Some Siltstone; brownish gray; argillaceous; carbonaceous; subblocky, rounded. Some Sandstone; light gray; very fine grained. 20% Coal. No sample show. Total gas 50 units.

4113' - 4131' Sandstone; light gray; very fine to fine grained--coarsens slightly downhole; subangular; well sorted; firm; non- to slightly calcareous; some white clay fill; peppered; rare pink-orange grains; no to slight porosity visible; good drilling break. 20% to 5% Coal; black. Some Shale; medium dark gray; brownish gray. No sample show. Total gas 50-80 units.

4131' - 4180' Shale; some light brownish gray, mostly brownish gray to some brownish black, some medium dark to dark gray; smooth to silty; firm, some moderately soft; non- to some slightly calcareous; carbonaceous, some coaly partings; platy, subblocky. Some Siltstone; brownish gray; argillaceous; carbonaceous; subblocky, rounded. 5% to 30% Coal; black. Minor streaks of Sandstone; light gray, light brownish gray; very fine to lower fine grained; no porosity visible. No sample show. Total gas 50-150 units.

4180' - 4200' Sandstone; light gray; very fine to lower fine grained; subangular; well sorted; firm, some slightly friable; non- to some slightly calcareous; peppered; some dark carbonaceous partings and shaly laminae; mostly no porosity visible. Also Shale; brownish gray to some brownish black, some medium dark gray. 5% Coal. No sample show. Total gas 55-70 units.

4200' - 4226' Shale; brownish gray to minor brownish black, medium dark to dark gray; smooth to silty; firm; non- to some slightly calcareous; carbonaceous where brownish; platy, subblocky.

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Grades to some Siltstone; brownish gray; argillaceous; carbonaceous; subblocky, rounded. Minor streaks of Sandstone; light gray, light brownish gray; very fine to lower fine grained; partly argillaceous; peppered; no porosity visible. Trace to 2% Coal; black. No sample show. Total gas 60-50 units.

4226' - 4242' Sandstone; light gray; very fine to fine grained; subangular; well sorted; firm, slightly friable; mostly noncalcareous; some white clay fill; peppered; no to slight porosity visible; fair fast drilling break. No sample show. Total gas 90-40 units.

4242' - 4290' Interbedded. Shale; brownish gray to some brownish black, lesser medium dark to dark gray; smooth to silty, very fine grained sandy; firm, some moderately soft; non- to some slightly calcareous; carbonaceous to slightly coaly where brownish; platy, subblocky. Some Siltstone; brownish gray; argillaceous; subblocky, rounded. Also Sandstone; light gray, some tinted light brownish gray; very fine to some fine grained; subangular; moderately well sorted; firm; non- to some slightly calcareous; some dark carbonaceous partings. Trace to 2% Coal; black. No sample show. Total gas 35-50 units. 480 units from carbonaceous, coaly shale at 4296'.

LOWER SEGO SS. TOP: 4290' DATUM: +1379'

Note: Temporary poor recovery of sandstone; cuttings lost through shaker screen that was too coarse.

4290' - 4406' Sandstone; light gray; very fine to fine grained, trace medium grains; subangular, subrounded; moderately well sorted; firm, some friable; non- to some slightly calcareous; white clay fill common; trace quartz overgrowths; rare pink-orange and green grains; slightly peppered; no to minor fair porosity visible; sustained fair fast drilling break. Drilling time indicates minor shale breaks not distinguished from caving brown and gray shale. No sample show. Total gas 70-10 units.

4406' - 4410' Shale; inferred from slow drilling. Total gas 20 units.

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Note:	Tripped for additional 8" drill collars and for bit #5 at 4418'--two cones loose.
4410' - 4420'	Siltstone; light brownish to brownish gray; some very fine grained sandy, part argillaceous; firm, moderately soft; non- to some slightly calcareous; slightly carbonaceous; subblocky, rounded. Lesser Sandstone; light gray; very fine grained; non- to slightly calcareous; slightly peppered; no porosity visible. No sample show. Total gas 40-8 units.
4420' - 4430'	No sample.
4430' - 4482'	Interbedded, laminated; gradational. Siltstone; light brownish to brownish gray; very fine grained sandy to argillaceous; non- to some slightly calcareous; subblocky, rounded. Shale; brownish gray, some medium dark gray; silty; firm; non- to slightly calcareous; some carbonaceous; platy, subblocky. Minor and decreasing Sandstone; light gray, some light brownish gray; very fine grained sandy; silty, part argillaceous; non- to slightly calcareous; slightly peppered; no porosity visible. No sample show. Total gas 6-10 units.
4482' - 4512'	Sandstone; light gray; very fine to fine grained, few medium grains; subangular; moderately well sorted; firm; non- to slightly calcareous; peppered; some dark shaly and partly carbonaceous partings; rare pink-orange and trace light green grains; no to slight porosity visible; fair drilling break. No sample show. Total gas 10-15 units.
4512' - 4562'	Interbedded, gradational. Decreasing Sandstone; light gray; very fine to fine grained; part similar to above, some may be circulated out late; increasingly silty and argillaceous downhole. Siltstone; brownish to some light brownish gray; part very fine grained sandy, much is argillaceous; non- to some slightly calcareous; carbonaceous; subblocky, some rounded. Minor Shale; brownish gray, little medium dark gray; silty, some very fine grained sandy. No sample show. Total gas 12-15 units.

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BUCK TONGUE OF MANCOS SH. TOP: 4562' DATUM: 1107'

4562' - 4640' Siltstone; brownish gray; argillaceous, much also very fine grained sandy; firm, moderately soft; slightly calcareous; some slightly carbonaceous; subblocky, rounded. Gradually increasing, interbedded Shale; medium dark to dark gray, brownish tint in part; very silty to slightly silty; firm; non- to some slightly calcareous; some slightly carbonaceous; trace pyrite; coarse platy, subblocky. Trace Coal. No sample show. Total gas 15-320 units.

Note: FID total gas increase likely resulted from produced gas from Wasatch zone as mud weight was dropped to 10.4 lb/gal. FID total gas gradually decreased as mud weight was increased to 10.6 lb/gal.

4640' - 4690' Shale; dark gray to some medium dark gray, brownish tint in part; slightly to moderately silty; firm to moderately soft--much decrepitates upon rewetting; non- to slightly calcareous; platy, subblocky. Grades to minor Siltstone; medium dark gray, tinted brownish gray; argillaceous; moderately soft; non- to slightly calcareous; subblocky, rounded. No sample show. Total gas 150-18 units.

4690' - 4732' Shale; dark gray, tinted dark brownish gray; slightly silty; moderately soft, firm; very slightly calcareous; slightly carbonaceous; platy, subblocky. No show. Total gas 12-15 units.

CASTLEGATE SS. TOP: 4732' DATUM: +937'

4732' - 4740' Some Shale; dark brownish gray, brownish black; smooth; firm; noncalcareous; carbonaceous, coaly; subblocky. 2% Coal; black. Some Claystone; white, gray streaked; firm; noncalcareous; commonly smeared by bit and associated with pulverized sandstone chips. Sandstone; light gray; fine to some medium grained; subangular; well sorted; firm, slightly friable; noncalcareous; silica and some white clay cement; slightly peppered; rare pink-orange grains; slight to fair porosity visible.

Trace Show: Five chips exhibit spotty black to brown stain--some solid bitumen. No fluorescence from stained and nonstained chips.

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Moderately fast slightly streaming yellow cut fluorescence from stained chips only, dries to weak fluorescent halo. Under white light, no to faint brown cut from stained chips and faint brown oil ring.

FID Gas: 22-32 units.

4740' - 4758' Sandstone; light gray; fine to some lower medium grained; subangular, subrounded; well sorted; firm, slightly friable--some loose grains and very small clusters; noncalcareous; some white clay fill; faceted grains show some quartz overgrowths and silica cement; peppered; rare pink-orange and light green grains; slight to fair porosity visible; fair drilling break. No sample show. Total gas 20-45 units.

4758' - 4770' Some Sandstone; medium light gray, light brownish gray; very fine to fine grained; firm, some moderately hard; calcareous; silty, argillaceous; peppered; slightly carbonaceous where brownish; no porosity visible. Grades to and laminated with Siltstone; light brownish gray; very fine grained sandy; argillaceous; calcareous; subblocky, blocky. No show. Total gas 20 units.

Note: Tripped to pick up shock-sub and inspect bit at 4772'. Reran bit #5 Smith F15. Trip gas 1500 units.

4770' - 4830' Gradational, thin beds and laminae. Sandstone; some light gray to mostly medium light gray; very fine grained; moderately well sorted; firm; calcareous; much is silty and argillaceous; peppered; no porosity visible. Lesser Siltstone; tinted light brownish to brownish gray; very fine grained sandy; firm; calcareous; argillaceous; slightly carbonaceous; subblocky. Some Shale; dark gray, tinted brownish gray in part; commonly silty; slightly calcareous; some carbonaceous; platy, subblocky. No show. Total gas 50 to 10 units.

4830' - 4884' Gradational thin beds, laminae; increased siltstone and shale. Siltstone; medium to medium dark gray, some brownish gray; commonly argillaceous, some very fine grained sandy; firm; calcareous; subblocky. Shale; dark gray, brownish gray; part very silty; firm; non- to moderately calcareous; some carbonaceous; platy, subblocky. Also Sandstone; medium light gray; very fine grained; part silty and argillaceous; firm; slightly calcareous; peppered;

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no porosity visible. No show. Total gas average 15 units.

4884' - 4920' Sandstone; light to medium light gray, some light brownish gray; very fine to lower fine grained; subangular; moderately well sorted; firm; non- to some slightly calcareous; some gray shaly partings; moderately clay filled; peppered; rare green grains; no to some slight porosity visible; fair to slight drilling break. Downhole, increased Siltstone; medium gray, brownish gray and Shale; dark gray, brownish gray; partly carbonaceous; platy, subblocky. No show. Total gas 15-12 units.

4920' - 4960' Gradational thin beds, laminae. Siltstone; brownish gray; argillaceous, some very fine grained sandy; firm; non- to slightly calcareous; slightly carbonaceous; subblocky. Shale; brownish gray, dark gray; mostly silty, some smooth; firm; non- to slightly calcareous; platy, subblocky. Minor Sandstone; medium light gray, light brownish gray; very fine grained; moderately well sorted; firm; non- to some slightly calcareous; peppered; slightly carbonaceous; no porosity visible. No show. Total gas 12-20 units.

Note: Short tripped at 4968'; hole in good shape. Virtually no short trip gas, 25 units.

MANCOS SH. TOP: 4960' DATUM: +709'

4960' - 4990' Shale; dark gray, commonly tinted brownish gray; slightly to very silty; firm; non- to slightly calcareous; some slightly carbonaceous; platy, subblocky. Also Siltstone; brownish gray, some medium dark gray; argillaceous, part very fine grained sandy; firm, some moderately soft; non- to slightly calcareous; slightly carbonaceous; subblocky. Minor streaks of Sandstone; medium light gray, light brownish gray; very fine grained; dirty; no porosity visible. No show. Total gas 12-18 units.

4990' - 5040' Shale; some medium dark to mostly dark gray, brownish tint common; slightly to very silty; firm; non- to little slightly calcareous; platy, subblocky. Also Siltstone; brownish gray to some medium gray; argillaceous, some very fine grained sandy; firm; non- to some slightly calcareous; slightly carbonaceous; subblocky. Minor streaks of Sandstone; medium light to medium gray, some light

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brownish gray; very fine grained; firm; non- to slightly calcareous; silty, commonly argillaceous, some dark shaly partings; peppered; no porosity visible. No show. Total gas 15-20 units.

5040' - 5140' — Shale; mostly dark gray, tinted brownish gray; slightly to little very silty; firm; non- to little slightly calcareous; platy, subblocky. Minor Siltstone; medium dark gray, brownish gray; argillaceous; firm; non- to some slightly calcareous; slightly carbonaceous; subblocky. No show. Total gas 20-40 units (slight increase due to recalibration).

5140' - 5220' — Uphole, 2% to trace Bentonite; medium light gray, little light brownish gray; slightly flecked; platy; fluorescent. Shale; mostly dark gray, brownish tint evident when wet; slightly silty; firm; non- to slightly calcareous; platy, subblocky. Minor Siltstone; medium dark gray, brownish gray; argillaceous; firm; non- to some slightly calcareous; slightly carbonaceous; subblocky. No fluorescence; quite slow nonstreaming bluish cut fluorescence dries to faint bluish yellow fluorescent halo. Total gas 30-70 units.

Note: FID total gas increased to 70 units as mud weight decreased to 10.4 lb/gal. Total gas 200 units from 4 stand short trip at 5219'.

5220' - 5230' — No sample; bypass shaker to change shaker screens.

5230' - 5390' — Gradational thin beds and laminae. Shale; mostly dark gray, brownish tint evident when wet, some medium dark gray; slightly to very silty; firm; non- to slightly calcareous; platy, subblocky. Lesser Siltstone; medium to medium dark gray, brownish gray; argillaceous, some very fine grained sandy; firm, some moderately soft; slightly calcareous; slightly carbonaceous; subblocky. 20%-5% Sandstone; light to medium light gray; very fine grained; subangular; moderately well sorted; firm, some moderately hard; slightly calcareous, also silica and clay cement; some argillaceous, silty; peppered; rarely pyritic; no porosity visible; no good drill breaks. No fluorescence; moderately slow nonstreaming bluish cut fluorescence dries to faint bluish yellow fluorescent halos. Total gas 70-20 units.

Note: Increased mud weight to 10.5+ lb/gal and total gas decreased to 35 units. Tripped for bit #6 Hughes GT09 at 5370'. Trip gas 300 units.

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5390' - 5472' Gradational thin beds and laminae. Shale; some medium dark to much dark gray; slightly to very silty; firm; slightly calcareous; platy, subblocky. Lesser Siltstone; medium to medium dark gray, brownish gray; argillaceous, some very fine grained sandy; firm, some moderately soft; slightly calcareous; slightly carbonaceous; subblocky. 10%-2% Sandstone; medium light gray; very fine grained; firm; slightly calcareous; mostly dirty; peppered; no porosity visible. No fluorescence; moderately slow nonstreaming bluish cut fluorescence dries to faint bluish yellow fluorescent halos. Total gas 10-35 units.

Note: Decreased mud weight slightly to 10.5 lb/gal and background gas increased slightly.

MANCOS "B" TOP: 5472' DATUM: +197'

5472' - 5540' 20% to 40% Sandstone; light to medium light gray, some tinted light brownish gray; very fine grained; subangular, subrounded; firm; slightly calcareous; part argillaceous; dark shaly laminae common; peppered; rare glauconite; no porosity visible. Also Siltstone; medium light gray to brownish gray; argillaceous, some very fine grained sandy; firm, moderately soft; slightly calcareous; slightly carbonaceous; subblocky, rounded. Decreased Shale; some medium dark to mostly dark gray; slightly to very silty; firm; slightly calcareous; platy, subblocky.

At 5497' - 5502', Dolomite; medium to medium dark gray, tinted brown; hard; peppered; silty to fine grained sandy, grades to dolomitic sandstone; shiny crystalline texture due to broken quartz grains and possibly crystalline carbonate; blocky.

No stain. Some rather dull solid yellow fluorescence in sandstone appears to be largely mineral fluorescence. Moderately slow nonstreaming yellowish blue cut fluorescence dries to weak bluish yellow fluorescent halos. Under white light, no cut or oil ring. Total gas 30-42 units. Connection gas to 55 units is definitely from uphole zone.

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5540' - 5690'

40% increasing to mostly 60% to 80% Sandstone; light to some medium light gray; very fine grained; subangular, subrounded; well sorted; firm; slightly to some moderately calcareous, also clay and some silica cement; part silty, argillaceous; some dark shaly partings; peppered; rare glauconite; no porosity visible but slightly faster drilling. Also Siltstone; medium light gray, light brownish gray; commonly argillaceous, some very fine grained sandy; firm; slightly calcareous; part finely carbonaceous; subblocky, rounded. Minor Shale; medium dark to dark gray, tinted brownish gray in part; slightly to very silty; commonly laminated with siltstone and sandstone.

No stain. Minor dull yellow fluorescence appears to be largely mineral fluorescence. Moderately slow nonstreaming bluish cut fluorescence from both sandstone and shale dries to faint fluorescent halos. Under white light, no cut or oil ring. Total gas 35-20 units; connection gas to 70 units from uphole zone.

5690' - 5878'

Thin beds and laminae. 60% to 70% Sandstone; light gray, some medium light gray; very fine grained, some lower fine grains in part; subangular, some subrounded; well sorted; firm; slightly to moderately calcareous; peppered; rare glauconite; increased brownish gray argillaceous streaks and dark gray shaly partings correspond to somewhat slower drilling; no porosity visible. 20% to trace Siltstone; medium light to medium dark gray, brownish gray; commonly argillaceous, some very fine grained sandy; firm, moderately soft; slightly calcareous; some slightly carbonaceous; subblocky. 20% to 30% Shale; some medium dark to mostly dark gray; quite smooth where dark gray, medium dark gray where silty; firm; non- to slightly calcareous; platy, subblocky.

No fluorescence. Moderately slow nonstreaming bluish cut fluorescence from sandstone, siltstone, and shale dries to weak to very faint halos. Under white light, no cut or oil ring. Total gas 40-20 units. Short trip gas 114 units.

5878' - 5955'

Thin beds and laminae. 90% to 80% Sandstone; light gray; very fine grained, some lower fine grains; subangular, some subrounded; well sorted; firm; slightly to moderately calcareous; peppered; rare glauconite; some dark gray shaly partings; mostly no porosity visible but overall slightly faster drilling. Trace Siltstone; medium dark gray,

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brownish gray; argillaceous; firm, moderately soft; slightly calcareous; some slightly carbonaceous; subblocky. 10% to 20% Shale; mostly dark gray; slightly to some moderately silty; firm; non- to slightly calcareous; platy, subblocky.

Virtually no fluorescence. Moderately slow nonstreaming cut fluorescence from sandstone and shale dries to faint fluorescent halos, slightly stronger from shale. Total gas 20-35 units.

5955' - 5958' Trace recovery of Bentonite; light gray to pinkish gray (buff); faintly fluorescent; apparent slow drilling break.

5958' - 5965' Sandstone; light gray; very fine grained, trace fine grains; subangular; well sorted; firm; slightly calcareous; peppered; rare glauconite; no to some slight porosity visible; fair drilling break.

Slight Show: No stain. 40% pale blue mostly solid fluorescence brightens somewhat as chips dry. Moderately fast non- to slightly streaming cut fluorescence dries to rather weak bluish yellow fluorescent halos. At 10X some yellowish gold fluorescent grains are shown to yield no cut fluorescence. Under white light, no cut or oil ring.

FID Gas:	Total	C1	C2	C3	C4	Min/Ft	Mud Log
Before	15	100%	0%	0%	0%	5.6	5960'
Maximum	65	87%	5%	6%	2%	3.3	5973'
After	25	96%	4%	0%	0%	6.0	5976'

Remark: A show in the Anschutz USA 4450 #11-12 was also found immediately underlying a correlative bentonite.

5965' - 6130' 70% to mostly 80% to 90% Sandstone; light gray, some medium light gray; very fine grained, some lower fine grains; subangular, some subrounded; well sorted; firm; slightly to moderately calcareous; peppered; rare to trace glauconite, increases downhole; dark gray shaly partings common; no porosity visible. Trace to 10% Siltstone; medium dark gray, brownish gray; argillaceous, some very fine grained sandy; firm, moderately soft; slightly calcareous; subblocky. 10% to 20% Shale; mostly dark gray, some medium dark gray; slightly to some moderately

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silty; firm; non- to slightly calcareous; platy, subblocky.

Trace fluorescence, may be mineral fluorescence where grains are goldish yellow. Moderately slow nonstreaming cut fluorescence from sandstone and shale dries to faint fluorescent halos, slightly stronger from shale. Total gas 30-20 units.

6130' - 6175' Sandstone; light gray; very fine to some fine grained, trace lower medium grains downhole; subangular, subrounded; moderately well sorted; firm; slightly to moderately calcareous; peppered; trace glauconite, rare pink-orange stained grains; some dark gray shaly laminae; mostly no to some slight porosity visible; fair drilling breaks 6142' - 6150' and 6160' - 6174' correlate to increased total gas.

Slight Show: No definite stain. Minor pale blue spotty to solid fluorescence. Moderately slow mostly nonstreaming bluish cut fluorescence dries to faint bluish yellow halos. Under white light, no cut or oil ring.

FID Gas:	Total	C1	C2	C3	C4	Min/Ft	Mud Log
Before	20	97%	3%	0%	0%	5.0	6138'
Maximum	110	85%	8%	6%	1%	3.2	6147'
After	30	96%	4%	0%	0%	6.4	6178'

BASE MANCOS "B"
LOWER MANCOS SH. TOP: 6175' DATUM: -506'

6175' - 6240' 30% gradually increasing to 80% Shale; mostly dark gray, minor medium dark gray; moderately smooth, little silty; firm; slightly calcareous, little noncalcareous; part micromicaceous; platy, some subblocky. No fluorescence. Slow weak nonstreaming cut fluorescence dries to faint bluish yellow fluorescent halos. Total gas 20-40 units.

70% to 20% Sandstone; light gray; very fine grained; most is likely caving or circulated out late--some may be interbedded or laminated with shale.

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Note:	Tripped for new bit #7 Reed HP43A at 6263'. Trip gas 260 units; 88% C1, 5% C2, 5% C3, 1% C4.
6240' - 6340'	Shale; dark gray to some medium dark gray; smooth to some silty--minor silty to very fine grained laminae; most is slightly calcareous; part micromicaceous; few chips pyrite; platy, some subblocky. No fluorescence; no cut attempted. Total gas 70-30 units. Mostly caving: 30% decresing to 5% Sandstone; light gray; very fine grained; same as Mancos "B".
Note:	Tripped for hole in drill pipe at 6345'. Short trip gas 275 units; 94% C1, 3% C2, 3% C3, 1% C4.
6340' - 6360'	Shale; dark gray to some medium dark gray, part tinted brownish gray; quite smooth to some silty; firm, some moderately soft; some noncalcareous to mostly slightly calcareous; minor siltstone laminae; part slightly carbonaceous; platy, subblocky. 5% Sandstone; light to medium light gray; very fine grained; subangular; well sorted; firm; slightly calcareous; part argillaceous; peppered; trace glauconite; dark gray shale laminae; no porosity visible. No sample show. Total gas 150-40 units.
6360' - 6460'	Shale; dark to some medium dark gray, brownish tint in part; some silty; mostly firm; slightly calcareous, some noncalcareous; some slightly carbonaceous; part micromicaceous; platy, subblocky. Variable 2% to 5% Sandstone; light gray; very fine to some lower fine grained; subangular; well sorted; firm; slightly calcareous; peppered; trace glauconite; dark gray shale laminae contact many chips; no porosity visible. Trace Bentonite; very light gray to pinkish gray (buff); minutely flecked; non- to slightly fluorescent. One inoceramus columnal; long. No fluorescence. Moderately slow weak nonstreaming bluish cut fluorescence from sandstone and shale dries to faint fluorescent halos. Under white light, no cut or oil ring. Total gas 60-120 units.
6460' - 6480'	Shale; dark to some medium dark gray. 10% Sandstone; light gray; very fine to some lower fine grained; subangular; well sorted; firm; slightly calcareous; peppered; trace glauconite; dark gray shale laminae common; no porosity visible. Trace Bentonite; pinkish gray (buff). No fluorescence; no cut attempted. Total gas 100 units.

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6480' - 6600'

Shale; medium dark to dark gray, brownish tint in part; much is silty, some moderately smooth; firm, some moderately soft; slightly calcareous; trace carbonaceous; some micromicaceous; platy, subblocky. Lesser Siltstone; medium dark gray, brownish gray; argillaceous, some very fine grained sandy; firm; calcareous; subblocky. 5% to 2% Sandstone; light to medium light gray; very fine grained; subangular; well sorted; firm; slightly calcareous; peppered; trace glauconite; dark gray shale laminae common; no porosity visible. Trace Bentonite; very light gray to pinkish gray (buff), non- to slightly fluorescent; medium gray, tinted blue; moderately fluorescent. Several inoceramus columnals.

No stain or oil fluorescence. Moderately slow weak nonstreaming cut fluorescence dries to weak fluorescent halos. Total gas 60-200 units.

Note:

Down time gas from Wasatch zone while working tight hole in Mancos at 6585': 3500 units when mud weight dropped slightly to 10.5 lb/gal.

6600' - 6740'

Shale; medium dark to dark gray, brownish tint in part; mostly silty; firm, some moderately soft; slightly calcareous; some micromicaceous; few chips show dark gray shale contacting 0.2 mm thick light gray siltstone laminae which grade to medium dark gray silty shale--all in 2 mm distance; platy, subblocky. Decreasing Siltstone; medium dark gray, brownish gray; argillaceous; firm; calcareous; subblocky. 2% to trace Sandstone; light to medium light gray; very fine grained; firm; slightly calcareous; peppered; trace glauconite; dark gray shale laminae common; no porosity visible. Trace Bentonite; very light gray to pinkish gray (buff) and medium gray tinted blue in part. Rare inoceramus columnals.

Moderately slow weak non- to some faintly streaming cut fluorescence from shale, siltstone, and sandstone dries to weak fluorescent halos. Total gas 100-220 units.

Note:

Short trip 5 stands at 6687'. Short trip gas 3500 units from Wasatch zone; 86% C1, 6% C2, 6% C3, 2% C4.

Tripped for new bit #8 Hughes GT09 in at 6749'. Mud level in hole temporarily dropped during trip: trip gas 8900 units; 94% C1, 5% C2, 1% C3, Tr C4.

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6740' - 6850'

Shale; some medium dark to mostly dark gray, part tinted brownish gray; moderately to slightly silty; firm, some moderately soft; slightly calcareous; some micromicaceous; trace splintery to much platy--part appears more fissile--and subblocky. Minor Siltstone; medium dark gray, brownish gray; argillaceous; firm; calcareous; subblocky. 2% to trace Sandstone; light gray; very fine grained; slightly calcareous; peppered; no porosity visible; some may be caving. Trace Bentonite; pinkish gray (buff), medium gray tinted blue.

No hydrocarbon fluorescence; no cut attempted. Total gas 160-250 units.

6850' - 7000'

Shale; dark gray, brownish tint common; slightly silty; firm, some moderately soft; slightly calcareous; some micromicaceous; decreasing minor streaks of siltstone and light to medium light gray very fine grained sandstone; platy to subblocky. One yellowish brown probable shell fragment. No fluorescence. Moderately slow non- to slightly streaming cut fluorescence dries to faint to some fair fluorescent yellow halos. Under white light, no cut or oil ring. Total gas 250-350 units.

7000' - 7310'

Shale; dark gray, brownish tint common; slightly silty; firm, some moderately soft; slightly to some moderately calcareous; some micromicaceous; platy to subblocky. Rare inoceramus columnals and yellowish brown shell fragments. Trace Bentonite; light gray. Minor caving of Green River limestone--trace dark oil stain in vuggy and oolitic chips--particularly 7200' - 7250'.

No hydrocarbon fluorescence. Moderately slow non- to slightly streaming cut fluorescence dries to mostly fair fluorescent yellow halos. Under white light, no cut but faint microscopic yellow oil rings. Total gas 220-400 units.

7310' - 7424'

Shale; dark gray, tinted brownish gray; moderately smooth textured; firm, some moderately soft; slightly to increasingly moderately calcareous; some micromicaceous; platy to subblocky. Few inoceramus columnals.

No fluorescence. Somewhat slow slightly streaming cut fluorescence dries to fair fluorescent yellow halos. Under white light, no cut but faint yellow oil rings.
Total gas 250-500 units.

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7424' - 7524' — Shale; dark gray, tinted brownish gray--virtually nonspeckled, minor faint dark yellowish brown mottling; moderately smooth textured, some silty streaks; firm; moderately to some very calcareous; chips remain intact in dilute HCl and form slight bubbly brown film; subblocky, some platy.

No fluorescence. Moderately rapid slightly streaming cut fluorescence dries to fair fluorescent yellow halos. Under white light, no cut from "pinch" samples but faint yellow oil rings visible at 10X, downhole some visible to unaided eye. Total gas 500-250 units; 81% C1, 10% C2, 6% C3, 3% C4.

Remark: Interval 7408' - 7472' gives spattering reaction in acid that is characteristic of Niobrara, but is above Niobrara log top of 7524'.

Note: Tripped for bit #9 Smith F15 in at 7506'. Trip gas 3400 units; 83% C1, 9% C2, 8% C3, Tr C4, no C5. C5 appeared after trip for bit #9 but not in trip gas.

NIOBRARA FM. TOP: 7524' DATUM: -1855'

7524' - 7590' — Shale; dark gray, brownish gray tint common; mostly nonspeckled, minor faint dark yellowish brown mottling and obscure specks; moderately smooth textured, some silty streaks; firm; moderately calcareous, some very calcareous below 7560'; no to slight bubbly brown film in acid, chips remain intact in acid; platy to subblocky. Trace to rare inoceramus columnals and few yellowish brown probable shell fragments. Few chips white calcite apparent fracture fill.

No fluorescence. Rather slow slightly streaming cut fluorescence dries to fair fluorescent yellow halos. Under white light, no cut but faint yellow oil rings visible at 10X. Total gas 220-410 units; 89% C1, 4% C2, 6% C3, 1% C4, Tr C5.

7590' - 7640' — Shale; dark gray, brownish gray tint in part; increasingly silty, some smooth textured; firm; moderately calcareous; no to slight bubbly brown film in acid, chips remain intact in acid; platy to subblocky. 10% to 20% Siltstone; brownish gray, medium dark gray; very argillaceous; calcareous;

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subblocky. Trace to 10% Sandstone; light to medium gray; very fine grained; some silty, argillaceous; moderately clean laminae contacted by dark gray shale; peppered; no porosity visible. Trace inoceramus columnals and few yellowish brown probable shell fragments. No fluorescence; no cuts attempted. Total gas 220-350 units.

7640' - 7740' 10% - 20% gradually increasing downhole to 20% - 40% Sandstone; light to some medium gray, part tinted brownish gray; very fine grained; subangular; well sorted; firm; calcareous; commonly argillaceous; peppered; numerous dark shaly partings; no porosity visible. Also Siltstone; medium dark gray, brownish gray; argillaceous, some very fine grained sandy; firm, moderately soft; calcareous; sublocky. Shale; medium dark to dark gray; moderately smooth to silty; firm; calcareous; platy, subblocky.

No hydrocarbon fluorescence. From sandstone: moderately slow nonstreaming cut fluorescence dries to rather weak fluorescent halos. From shale: moderately slow non- to slightly streaming cut fluorescence dries to fair halos. Total gas 200-300 units.

7740' - 7880' Gradational thin beds and laminae. 30% - 20% Sandstone; light to medium gray, light brownish gray; very fine grained; subangular; well sorted; firm; calcareous; much is argillaceous, some moderately clean laminae; peppered; rare glauconite; some micaceous; numerous dark gray and brownish gray shaly partings; no porosity visible. 30% - 20% Siltstone; brownish gray, medium dark gray; argillaceous, some very fine grained sandy; firm, moderately soft; calcareous; some carbonaceous; sublocky. Shale; medium dark to dark gray; moderately smooth to silty, very fine grained sandy; firm; moderately to slightly calcareous; some carbonaceous; platy, subblocky. Few inoceramus columnals and yellowish brown probable shell fragments. Trace, increasing to 2% at 7850', Bentonite; pinkish gray (buff) to lesser light brownish gray and medium gray; non- to moderately flecked; bright yellow mineral fluorescence in part.

Virtually no hydrocarbon fluorescence. Sandstone: moderately slow nonstreaming cut fluorescence dries to faint fluorescent halos. Siltstone and shale: moderately fast non- to slightly streaming cut fluorescence dries to faint to fair fluorescent yellow halos. Under white light, no cut and virtually no oil rings visible at 10X from selected chips. Total gas 200-400 units.

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At 7840' - 7850', two chips platy vein calcite fracture fill exhibit moderate bluish yellow fluorescence and yield flash cut fluorescence that dries to faint fluorescent yellow halo.

Note: Tripped for new bit #10 Hughes ATJ11 at 7891' due to slow penetration. Old bit Smith F15 was in good shape. Trip gas 1350 units from Wasatch; 630 units from bottom of hole.

7880' - 7940' Gradational thin beds and laminae. 20% Sandstone; light gray to light brownish gray; very fine grained; subangular, subrounded; well sorted; firm; moderately to slightly calcareous; moderately clean to argillaceous; peppered; some micaceous; trace carbonaceous; trace glauconite; numerous contacts with dark gray to brownish gray shaly partings; no porosity visible. 10% Siltstone; brownish gray; argillaceous, some very fine grained sandy; firm, some moderately soft; partly carbonaceous; calcareous; subblocky. Shale; mostly dark gray; moderately smooth textured to silty; firm; slightly to moderately calcareous; trace carbonaceous; platy, subblocky. Trace to 2% Bentonite; light gray to pinkish gray (buff), some light brownish gray; numerous brown flecks in part; much bright yellow mineral fluorescence. Trace to few inoceramus columnals and rare yellowish brown probable shell fragments.

No hydrocarbon fluorescence. Sandstone: moderately slow nonstreaming cut fluorescence dries to faint fluorescent halos. Siltstone and shale: moderately fast to slow non- to slightly streaming cut fluorescence dries to faint to fair fluorescent halos--better from brownish siltstone. Under white light, no cut and mostly no oil rings visible at 10X from selected chips--faint yellow ring from siltstone. Total gas 110-250 units; 81% C1, 10% C2, 7% C3, 2% C4, Tr C5.

7940' - 8110' 20% - 10% Sandstone; light gray to light brownish gray; very fine grained; subangular, subrounded; well sorted; firm; calcareous; moderately clean to argillaceous; peppered; some micaceous; trace carbonaceous; trace glauconite; numerous dark shaly partings; no porosity visible. Shale; dark gray, brownish tint in part; moderately smooth textured to silty; firm; moderately calcareous, some very calcareous; forms no to trace bubble brown film in acid; subblocky, increasingly platy. 1% - 2% Bentonite; mostly pinkish gray (buff), some light brownish gray; numerous brown flecks common; much bright yellow mineral fluorescence. Few inoceramus columnals and rare

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yellowish brown probable shell fragments.

No hydrocarbon fluorescence. Sandstone: moderately slow nonstreaming cut fluorescence dries to faint fluorescent halos. Shale: moderately fast to slow non- to slightly streaming cut fluorescence dries to faint to fair fluorescent halos. Under white light, no cut and mostly no oil rings visible at 10X. Total gas 220-500 units.

Remark: Penetration rate is largely proportional to increases and decreases in RPM (110 RPM high gear, 80 RPM second gear). Reduced RPM allows higher pump rate to clean hole prior to connections. Liberated total gas reflects varying penetration rates.

8110' - 8190' Shale; dark gray, brownish gray tint common; moderately smooth textured to silty; firm; moderately calcareous, some slightly calcareous; platy, subblocky. 1% - 2% Bentonite; mostly pinkish gray (buff), some light brownish gray; numerous brown flecks; much bright yellow mineral fluorescence. Few inoceramus columnals and rare yellowish brown probable shell fragments.

No hydrocarbon fluorescence. Moderately fast nonstreaming cut fluorescence dries to faint fluorescent halos. Under white light, no cut or oil ring. Total gas 250-550 units.

8190' - 8240' Gradational thin beds, laminae. 10% Sandstone; light gray to brownish gray; very fine grained; subangular, subrounded; well sorted; firm; calcareous; moderately clean to much argillaceous; peppered; some micaceous, trace chips contain abundant biotite similar to flecks in bentonite; trace glauconite; numerous dark shaly partings; no porosity visible. 10% - 20% Siltstone; brownish gray, medium dark gray; argillaceous, some very fine grained sandy; firm, some moderately soft; slightly to moderately calcareous; trace glauconite; subblocky. Shale; dark gray, part tinted brownish gray; some smooth to much silty, some very fine grained sandy; firm; slightly to moderately calcareous; platy, subblocky. 1% - 2% Bentonite; mostly pinkish gray (buff), some light brownish gray, trace tinted olive gray; numerous brown flecks; much bright yellow mineral fluorescence. Few inoceramus columnals and rare yellowish brown probable shell fragments.

No hydrocarbon fluorescence. Sandstone: moderately slow

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nonstreaming cut fluorescence dries to faint fluorescent halos. Siltstone and shale: moderately fast to slow mostly nonstreaming cut fluorescence dries to faint to few fair fluorescent halos. Under white light, no cut or oil rings. Total gas 450-380 units prior to gas increase at 8222'.

FID Gas:	Total	C1	C2	C3	C4	C5	Min/Ft	Mud Log
Before	380	77%	11%	9%	2%	Tr	9.3	8220'
Maximum	23600	70%	15%	11%	3%	1%	8.4	8222'
After	9600	68%	18%	10%	4%	1%	10.0 avg	8250'

Remarks: Average mud weight prior to gas increase was 10.6+ lb/gal, miniumum mud weight was 10.5 lb/gal at 8212' and 8217'. Gas increase occurred prior to connection and cut mud weight to 9.8 lb/gal. Good hydrocarbon odor at shaker and gas breaking out of mud; minor gas bubbling at shaker.

No drill break or unusual torque at gas show. Samples during and after gas increase are virtually identical to overlying gradational thin beds of shale, some siltstone, and minor sandstone--only discernible difference is a trace increase in sand-size pyritic masses accompanying gas show. No fracture fill or flat faces indicating fractures. No fluorescence visible at 10X, no improved cut fluorescence.

Gas composition and connection gas to 4800 units over background--from bottom of hole--indicate a pressured source of gas which then cut mud weight sufficiently to likely allow Wasatch gas to enter borehole also. 10.8+ lb/gal mud weight in, 10.4+ lb/gal out.

Remark: Correlation with offset logs indicates a fault may have been crossed at 8218'.

8240' - 8330' Gradational thin beds, laminae. 5% - Trace Sandstone; mostly light brownish to brownish gray, some light gray; very fine grained; firm; calcareous; mostly argillaceous; peppered; some micaceous; rare glauconite; dark shaly partings common; no porosity visible. 10% Siltstone; brownish gray, medium dark gray; argillaceous, some very fine grained sandy; firm, some moderately soft; calcareous; subblocky. Shale; dark gray, part tinted brownish gray; some smooth to much silty, some very fine grained sandy; firm; slightly to moderately calcareous; platy, subblocky.

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1% - 2% Bentonite. Few inoceramus columnals and rare yellowish brown probable shell fragments.

No hydrocarbon fluorescence. From sandstone, siltstone, and shale: rather slow non- to some faintly streaming bluish cut fluorescence dries to faint bluish yellow halos. Under white light, no cut or oil rings. Total gas varied 10000 to 3500 units as mud weight was gradually increased to 11.3 lb/gal.

Note: Recovered only two chips dark gray shale lined with white calcite fracture fill, no fluorescence.

Downtime Gas: Prior to making short trip for intermediate logs, shut pumps off for 20 min with background gas of 3600 units and 11.3 lb/gal mud in. Well did not flow. Downtime gas peak 7200 units; 61% C1, 17% C2, 13% C3, 7% C4, 2% C5. Mud was cut to 10.6 lb/gal out.

Short Trip Gas: Short tripped 42 stands; minor tight spot at approximately 4686'. Short trip gas, 22800 units; 62% C1, 12% C2, 10% C3, 8% C4, 3% C5. 11.3+ lb/gal mud in, mud cut to 10.5+ lb/gal out at peak of gas. Good rich hydrocarbon odor at shaker. Mud is degassing but only minor bubbling at shaker.

Intermediate Csg: 9 5/8" set at 8340' rig depth, 8330' log depth, 2 ft off bottom.

8330' - 8430' Shale; dark gray; moderately smooth; firm; calcareous; platy. Rare Bentonite; pinkish gray (buff) to light brownish gray. Few inoceramus columnals.

No fluorescence. Moderately slow nonstreaming cut fluorescence dries to faint bluish yellow halos. Under white light, no cut or oil ring. Total gas 110 - 120 units; 74% C1, 15% C2, 6% C3, 3% C4, 3% C5. Connection gas 172 units.

Remarks: 90% cement to 8370', 80% to 8390', 50% to 8400', 10% at 8420'. Cement in samples (likely all from inside 9 5/8" casing) is moderately soft. Abundant metal through 8440'.

8430' - 8524' Shale; dark gray to some medium dark gray; moderately smooth textured; firm; moderately to some slightly calcareous; platy, some splintery, some subblocky. Trace to 2% Bentonite; pinkish gray (buff) to light brownish gray; commonly brown flecked; light yellow mineral fluorescence common. Rare inoceramus columnals. Moderately slow

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nonstreaming cut fluorescence dries to faint halos. Total gas 90 to 200 units.

8524' - 8543' Several thin Limestones; medium gray to some light brownish gray; earthy, microcrystalline; moderately to some slightly argillaceous downhole; firm; subblocky, platy; no porosity visible. Grades to and interbedded with dominant Shale; medium dark gray; faintly bumpy texture; firm; very calcareous; in acid chips remain intact but are pitted and fragile, virtually no bubbly brown film in acid; subblocky, some platy. No fluorescence. Moderately slow nonstreaming cut fluorescence dries to bluish yellow fluorescent halos, very faint from limestone, weak from shale. Total gas 120 to 200 units.

FRONTIER FM. TOP: 8543' DATUM: -2874'

8543' - 8590' Shale; dark gray, some nearly grayish black; moderately smooth textured, little silty; firm; slightly to some moderately calcareous; fissile--platy to some splintery, some subblocky. Increase to 2% to 10% Bentonite; pinkish gray (buff); numerous brown flecks; yellow mineral fluorescence. Trace to 2% probable Shell fragments; pale to dark yellowish brown; partly translucent calcite. No hydrocarbon fluorescence; no cut attempted. Total gas 160 units to 400 units.

8590' - 8630' 10% to 30% Sandstone; medium light to medium gray, light brownish gray; very fine grained; moderately well sorted; firm, some moderately hard; calcareous, some contains grains of yellowish brown calcite from possible shell fragments; much is silty, argillaceous; some laminated with dark shale; some pyritic; no porosity visible, no good drilling breaks. Shale; dark gray, some medium dark gray; moderately smooth textured to much silty and some very fine grained sandy; firm; slightly to some moderately calcareous. 2% to 10% Bentonite; pinkish gray (buff), minor light olive gray; brown flecks common; yellow mineral fluorescence. No hydrocarbon fluorescence; no cut attempted. Total gas 200 to 360 units.

8630' - 8640' Increased Shale; dark gray, grayish black; moderately smooth; firm; slightly calcareous; fissile, platy to some splintery. No show. Total gas 200 to 300 units.

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8640' - 8720' 30% to 50% Sandstone; minor light gray, mostly medium gray to light brownish gray; very fine grained, little fine grained; moderately well sorted; small firm clusters, minor part moderately hard, siliceous, with glassy broken quartz grains; much is silty, argillaceous; slightly peppered; very to slightly calcareous; rare glauconite; trace pyrite; no porosity visible. Also Shale; some medium dark gray where silty, very fine grained sandy; much dark gray to some grayish black where smooth textured; firm; very slightly to some moderately calcareous; mostly fissile, platy and some splintery, some subblocky where silty. 2% to 5% Bentonite; pinkish gray (buff) to little tinted light olive gray; numerous brown flecks; yellow mineral fluorescence. No hydrocarbon fluorescence; no cut attempted. Total gas 220 to 400 units.

8720' - 8730' Shale; grayish black; moderately smooth; firm; very slightly calcareous; platy, some splintery. Minor Sandstone; as above. No fluorescence or cut fluorescence. Total gas 200 units.

8730' - 8740' Shale; grayish black; as above. 30% Sandstone; medium light to medium dark gray, some tinted brownish gray; very fine grained; well sorted; firm; very slightly calcareous; dirty; glauconitic; no porosity visible. Trace Bentonite. No show. Total gas 200 to 100 units.

8740' - 8750' 80% Sandstone; as above. 20% Shale; dark gray to grayish black. No show. Total gas 100 to 90 units.

8750' - 8780' Shale; grayish black; smooth; firm; noncalcareous; platy, some splintery. Trace Bentonite. No sample show. Total gas 90 to 960 units.

DAKOTA SS. TOP: 8780' DATUM: -3111'

Note: No defined drilling break. Sharp change from shale at 8785' spot sample to sandstone at 8790'.

8780' - 8784' Sandstone; light to medium light gray, much tinted light brownish gray; very fine to some fine grained; subangular to some rounded; moderately well sorted; firm, some moderately hard; noncalcareous, silica cement; moderately clean, minor dispersed brown clay in part; minor pyrite; little is very

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siliceous with glassy broken fine to medium quartz grains; no porosity visible. No sample show.

FID Gas:	Total	C1	C2	C3	C4	C5	Min/Ft	Mud Log
Before	160	81%	8%	5%	4%	1%	3.8	8782'
Maximum	1060	87%	10%	1%	1%	Tr	3.2	8788'
After	160	81%	8%	5%	4%	1%	2.9	8794'

8784' - 8792' 60% Shale; grayish black; quite smooth; firm; noncalcareous; platy, some splintery. 40% Sandstone; light gray to light brownish gray; as above. No sample show. Total gas 700 to 200 units, spikes.

8792' - 8800' Sandstone; very light gray; upper very fine to fine grained; subangular, subrounded; well sorted; firm, some moderately hard; silica cemented; quite clean, minor brownish gray apparent clay fill in some pore spaces; some glassy broken quartz grains; quartz overgrowths in part; trace pyrite; virtually no porosity visible, thin drill break to 2.0 min/ft. No fluorescence. Slow weak nonstreaming extremely faint bluish cut fluorescence dries to very faint fluorescent halo--almost no sample show. Total gas 220 to 680 units, spikes.

20% Shale; grayish black; moderately smooth textured; firm; non- to slightly calcareous; platy.

8800' - 8825' Sandstone; very light to light gray; upper very fine to fine grained; subangular, subrounded; well sorted; mostly firm; non- to some slightly calcareous; slightly peppered, minor gray lithics; rare glauconite; no porosity visible. 30% to 20% Shale; grayish black, minor dark gray; mostly smooth, little silty; firm; non- to some slightly calcareous; platy and some splintery, little subblocky. No sample show.

FID Gas:	Total	C1	C2	C3	C4	C5	Min/Ft	Mud Log
Before	220	74%	19%	4%	2%	Tr	2.9	8802'
Maximum	1320	84%	14%	2%	Tr	Tr	3.0	8812'
After	300	74%	20%	4%	2%	Tr	4.6	8822'

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8825' - 8840' — 60% to 50% Shale; grayish black, some dark gray; smooth, little silty and very fine grained sandy; firm; non- to slightly calcareous; platy and some splintery, minor subblocky where silty. 30% to 40% Sandstone; white to light gray, little light brownish gray; very fine to fine grained, trace lower medium grained clusters and rare loose medium rounded grains; subangular, subrounded; well sorted; firm, some moderately hard; non- to slightly calcareous, mostly silica cement; mostly clean, minor dispersed brownish clay fill; some gray lithics in part; little is dark where apparently contacting dark shale; no porosity visible. 2% to 5% Bentonite; pinkish gray (buff) to light brownish gray, some tinted grayish orange, trace light olive gray; part conspicuosly flecked; platy; mineral fluorescence. 5% Claystone; white, streaked gray to black; possible kaolinite in part, some may be simply smeared and pulverized light colored sandstone. No sample show. Total gas 500 to 150 units, spikes.

8840' - 8864' — 70% to 80% Shale; grayish black, some dark gray; smooth, little silty, some very fine grained sandy downhole; firm; non- to some slightly calcareous; platy, some splintery.

20% to 10% Sandstone; very light to light gray, some tinted light brownish gray; very fine to some fine grained; well sorted; firm; non- to very slightly calcareous, mostly silica cement; minor dispersed brownish clay; minor gray lithics; quite clean; no porosity visible. 5% Bentonite. 5% Claystone; white, gray and black streaked. No sample show. Total gas 150 to 700 units, spikes.

Note: Tripped for new bit #12 Smith F3 in at 8882'. Virtually all teeth were broken or worn flat on old bit #11 Reed HP43A (same make and type of bit that drilled Dakota at Anschutz USA 4450 #11-12).

Trip gas 1140 units; 84% C1, 11% C2, 4% C3, 1% C4, Tr C5.

8864' - 8874' — Shale; grayish black, some dark gray, part tinted dark brownish gray; smooth, some silty and very fine grained sandy; firm; non- to slightly calcareous; some splintery, much platy, some subblocky where silty to sandy. 10% Sandstone; light brownish to brownish gray; very fine to some fine grained; firm, some moderately hard; noncalcareous; very argillaceous; no porosity visible. No fluorescence. Rather slow weak nonstreaming cut fluorescence from sandstone and shale dries to faint bluish yellow halos. Total gas 80 - 220 units.

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8874' - 8884' Sandstone; white, very light gray; fine to coarse grained; subangular to rounded; moderately well sorted; firm, moderately friable; noncalcareous; some gray lithics in part; no to some good porosity visible, fast drilling break to 0.6 min/ft. No fluorescence. Moderately fast but very faint bluish cut fluorescence dries to extremely weak bluish halo--virtually no sample show.

FID Gas:	Total	C1	C2	C3	C4	C5	Min/Ft	Mud Log
Before	220	91%	6%	3%	Tr	Tr	7.3	8886'
Maximum	715	88%	8%	3%	1%	Tr	0.6	8888'
After	240	75%	8%	8%	8%	Tr	8.3	8898'

8884' - 8897' Sandstone; light gray, tinted light brownish gray, minor brownish gray downhole; very fine to some fine grained downhole; well sorted; firm to moderately hard; silica cement, some chips scrape steel from tweezers; fine dispersed brownish clay and some gray lithics; tight, no porosity visible. 30% - 50% Shale; grayish black, dark gray, some tinted dark brownish gray; smooth to some silty, very fine grained sandy. No fluorescence. Moderately slow nonstreaming cut fluorescence from sandstone dries to weak bluish halo. Total gas 240 to 580 units.

8897' - 8926' 30% - 10% Sandstone; light brownish gray; very fine to fine grained; moderately well sorted; firm, some moderately hard; non- to little slightly calcareous; some gray lithics; moderate to abundant brownish gray dispersed clay; no porosity visible. 70% - 80% Shale; grayish to some brownish black, dark gray, dark brownish gray; smooth to silty; firm; non- to little slightly calcareous; platy and some splintery, some subblocky. Trace to 10% Siltstone; brownish to dark brownish gray; argillaceous; firm, some moderately hard; noncalcareous; subblocky, blocky.

At base, Trace to 2% Coal, black and Shale; grayish to brownish black; coaly.

No fluorescence. Moderately slow to rather fast, nonstreaming cut fluorescence from sandstone dries to faint bluish halos. Moderately slow to fast, non- to slightly streaming cut fluorescence from shale dries to very faint to weak bluish to bluish yellow fluorescent halos. Total gas 200 - 600 units.

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8926' - 8930' 40% Sandstone; light brownish gray, some light gray; very fine to some fine grained; well sorted; firm, some moderately hard; non- to little slightly calcareous; slight to moderate dispersed brownish gray clay; some gray lithics; few chips contact brownish black coaly partings; mostly no porosity visible, fair drilling break. Also Shale; brownish to grayish black, some dark brownish gray; smooth to some silty, sandy; firm; platy, some splintery and subblocky. 10% Shale; black; coaly and Coal.

No fluorescence. Moderately slow nonstreaming cut fluorescence from sandstone dries to weak bluish halos. Fast moderately streaming bluish cut fluorescence from coaly shale and coal dries to bluish yellow halo and moderate brown oil ring visible to unaided eye under white light. Total gas 220 to 1240 units.

8930' - 8950' Sandstone; overall very light gray; loose medium to coarse to some very coarse grains; angular (freshly broken) to subrounded to rounded; moderately sorted; 30% Chert, white to light gray, light brownish gray, trace yellowish brown--inferred broken pebbles; fast drilling break averages 1.2 min/ft with several slow feet; appears to coarsen downward.

Virtually no sample show from selected grains and rare clusters.

FID Gas:	Total	C1	C2	C3	C4	C5	Min/Ft	Mud Log
Before	220	74%	17%	7%	1%	0%	7.8	8930'
Maximum	3080	90%	6%	3%	1%	0%	1.2 avg	8939'
After	400	85%	9%	5%	1%	0%	5.1	8958'

Note: Circulated samples at 8960'. Pumps down 10 min during circulation of gas show.

8950' - 8960' Sandstone; very light gray; fine to medium to some lower coarse grained; moderately well sorted; firm; noncalcareous; abundant white clay fill; no porosity visible. No fluorescence; no cut attempted. Total gas 400 - 600 units.

8960' - 8970' 60% Quartzite; light gray; appears to be fine to medium grained, grain boundaries indistinct; very hard; thoroughly siliceous, much appears cherty; no porosity visible, slow

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drilling break to 15 min/ft. 30% Sandstone; as above. 10% Shale. No sample show. Total gas 200 - 400 units.

8970' - 8980' Sandstone; nearly white; very fine to little fine grained; well sorted; firm, slightly friable; noncalcareous; much white clay fill; no porosity visible but fast drilling break to 0.5 min/ft. 50% Shale; dark gray to grayish black, some dark brownish gray; smooth, some silty; firm; non- to some slightly calcareous; little is coaly; platy, some subblocky. Virtually no sample show in sandstone; no cut attempted in shale. Please see gas tabulation below.

8980' - 8998' Sandstone; white; loose medium to coarse grains; subrounded to rounded; moderately well sorted; minor clusters are completely white clay filled, most loose grains are coated with white clay to varying degrees; moderate silica cement at base; no porosity visible in clusters, fast drilling break to 0.5 min/ft. No sample show.

FID Gas:	Total	C1	C2	C3	C4	C5	Min/Ft	Mud Log
Before	200	64%	21%	11%	3%	0%	11.9	8970'
Maximum	720	86%	8%	5%	1%	0%	0.7 avg	8984'
After	350	88%	7%	4%	1%	0%	14.3	9008'

8998' - 9046' Interbedded, much is gradational. 40% - 20% Sandstone; minor light gray, mostly light brownish to brownish gray, trace tinted bluish green; very fine and fine to little medium grained; moderately well sorted; firm to some quite hard; non- to some slightly calcareous, some siliceous; slightly to very argillaceous; no porosity visible.

10% Siltstone; brownish gray; argillaceous; non- to slightly calcareous; part carbonaceous; subblocky.

40% - 50% Shale; brownish to grayish black, some dark gray and dark brownish gray; smooth to some silty, very fine to fine grained sandy; firm; non- to some slightly calcareous; minor coaly streaks; platy to some splintery, some subblocky.

10% - 20% Claystone/Shale; medium gray, light brownish gray, minor part tinted bluish green; smooth and partly waxy; dispersed very fine to fine grained sand in part;

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firm, some moderately hard where siliceous; platy to irregular blocky.

Trace to 2% Coal; black; part shaly.

No fluorescence. No cut fluorescence from claystone. Moderately slow nonstreaming cut fluorescence from sandstone and some shale dries to very faint fluorescent halos, weak halos from siltstone. Moderately fast slightly streaming cut fluorescence from coaly shale and coal dries to weak bluish yellow fluorescent halos. No cut and virtually no oil rings visible under white light. Total gas 600 to 100 units.

Remark: Very good sample quality overall through Dakota.

MORRISON FM. TOP: 9046' DATUM: -3377'

Note: No defined drilling break to pick top, sample change only.

9046' - 9090' At top, trace Chert; red-orange; some coated with greenish gray tinted clay; hard; subrounded to freshly broken angular chips. Minor Claystone; grayish red, part tinted grayish red purple, slight increased in greenish gray; much is very fine to fine sandy--grades to trace clayey sandstone; firm, some moderately hard where more siliceous; platy to rounded to irregular blocky.

Mostly Shale; grayish black, some dark gray; smooth, some silty; firm; noncalcareous; trace to 2% associated coal; splintery, platy, some subblocky; may be caving from Dakota. Lesser Claystone; medium gray, greenish gray, grayish red, hints of grayish red purple, downhole minor reddish brown. Trace to 20% Sandstone; light brownish gray, light greenish gray; very fine to fine grained; part argillaceous, silty; firm to moderately hard; noncalcareous, downhole some siliceous; no porosity visible. 0% to 10% Limestone; white; crypto- to microcrystalline; soft to firm; clean, some very fine sandy; platy; no porosity visible. No fluorescence; no cut attempted. Total gas 100 - 550 units, average 200 units.

9090' - 9100' Claystone; dark grayish red to some pale red; firm to quite hard; noncalcareous, part siliceous--steel scraped

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from tweezers; platy to irregular blocky. Minor Claystone; light greenish gray, medium gray, dark reddish brown. Some Shale; grayish black; smooth to some silty; firm; non- to very slightly calcareous; trace coaly; platy, subblocky. No show. Total gas 130 units.

9100' - 9110' Shale; grayish black, some dark gray; smooth, some silty; firm; non- to little slightly calcareous; trace coaly; splintery, platy, some subblocky. Minor Claystone; light greenish gray, dark grayish red, light brownish gray; medium dark gray; smooth and partly waxy, some dispersed fine sand; firm; noncalcareous; trace pyritic; platy, irregular blocky. 10% Sandstone; light brownish to brownish gray; very fine to fine grained; clayey; firm to moderately hard; noncalcareous, trace siliceous; no porosity visible. No show. Total gas 130 units.

9110' - 9118' Sandstone; light greenish gray; very fine to fine grained; firm to hard; noncalcareous, much is thoroughly silicified--quartzitic; part clayey; no porosity visible. Minor loose Quartz grains; medium to coarse. 30% Claystone; light greenish gray, light brownish gray, dark grayish red; noncalcareous; platy to irregular blocky. No sample show.

FID Gas:	Total	C1	C2	C3	C4	C5	Min/Ft	Mud Log
Before	100	71%	12%	9%	7%	Tr	9.3	9126'
Maximum	600	87%	9%	4%	1%	Tr	7.4	9130'
After	150	69%	13%	10%	8%	Tr	9.8	9138'

9118' - 9130' Shale; grayish black; smooth, some silty; firm; noncalcareous; some coaly; splintery, platy, subblocky. Also Claystone; light greenish gray, grayish red, reddish brown, medium to medium dark gray; smooth and partly waxy, some dispersed very fine to fine sand. 10% Sandstone; light greenish gray, light brownish gray; very fine to fine grained clusters, some loose medium to coarse sand (may be caving from Dakota); firm, some moderately hard; noncalcareous; clayey; no porosity visible. Trace Limestone; white, light greenish gray; microcrystalline; firm; no porosity visible. No sample show. Total gas 600 - 150 units.

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9130' - 9140' — Claystone; light greenish gray, medium gray, dark reddish brown, hints of grayish red purple. 10% Quartz Sand; loose fine to lower coarse; subrounded to rounded. 20% Shale; grayish black. Very small cuttings. No sample show. Total gas 150 units.

Note: Tripped for new bit #13 Reed HP53A in at 9155'. Trip gas 4000 units.

9140' - 9160' — Claystone and Mudstone; dark grayish red to pale red, medium to medium dark gray, hints of grayish red purple, dark reddish brown, light greenish gray; non- to little slightly calcareous; smooth and partly waxy, some very fine to fine grained sandy; firm, some moderately hard; platy, some splintery, some irregular blocky. Minor Shale; grayish black; coaly; platy to blocky. No sample show. Total gas 150 - 3150 units, spikes.

9160' - 9180' — Claystone; light to medium dark gray, some tinted light brownish gray, lesser light greenish gray--overall lighter colored downhole; smooth to little very fine grained sandy; firm to quite hard; noncalcareous, part siliceous--scrapes steel from tweezers; staining with Alizarin Red shows minor calcitic patches, possibly along microfractures; platy to sharp irregular blocky. No sample show. Total gas 1500 - 200 units, high gas spikes to steady lower background.

9180' - 9200' — Claystone and Mudstone; pale red to grayish red, lesser medium to medium dark gray; some very fine grained sandy; firm to moderately hard; noncalcareous, some siliceous; platy to subblocky, some irregular. Minor Shale; grayish black; firm; non- to slightly calcareous. No sample show. Total gas 200 - 850 units.

9200' - 9210' — Claystone and Mudstone; pale red to grayish red, increased medium dark gray, minor light greenish gray. Minor Shale; dark gray to carbonaceous grayish black; slightly silty; firm; platy, subblocky. No sample show. Total gas 250 units.

9210' - 9230' — Much Claystone; light to medium gray, tinted olive gray in part, greenish gray, little pale to grayish red; firm, little medium hard; moderately to slightly calcareous, significant staining in Alizarin Red uphole; platy, subblocky. No sample show. Total gas 250 - 2300 units, spikes.

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9230′ - 9240′	80% Sandstone; white to light gray, light greenish gray; very fine to some lower fine grained; firm to hard; calcareous, part also siliceous--scrapes steel from tweezers; slightly peppered; some argillaceous; no porosity visible. 15% Claystone; light greenish gray to pinkish gray (buff); smooth to some sandy; firm to moderately hard; calcareous. 5% Shale; grayish black; carbonaceous, some coaly. No sample show. Total gas 240 - 150 units.
9240′ - 9250′	Claystone; medium to medium dark gray, tinted olive to light brownish gray, some greenish gray; firm to moderately hard; very calcareous--many chips stain red in Alizarin Red but remain intact in acid, may grade to minor argillaceous limestone; platy, irregular subblocky. No sample show. Total gas 150 - 1750 units.
9250′ - 9260′	Claystone; pinkish gray (buff) to light brownish gray, some light greenish gray; firm, some moderately hard; very calcareous--earthy limestone appearance but chips remain intact in acid; platy, subblocky. No sample show. Total gas 1040 - 400 units, spikes.
9260′ - 9290′	Claystone; light greenish to greenish gray, light olive to olive gray, minor brownish gray downhole; firm to moderately hard; slightly to very calcareous, some siliceous content where metal is scraped from tweezers; ; earthy to micro- and cryptocrystalline limestone texture but chips largely remain intact in acid; platy, subblocky. No sample show. Total gas 180 - 2000 units.
Note:	Below 9220′: variable 5% to 30%, average 10%, soft cement that is stained grayish pink to pale red on exterior of chips, probably by mud thinner.
9290′ - 9300′	Mostly Shale/Claystone; light greenish to greenish gray, lesser light olive gray; smooth and partly waxy, minor dispersed very fine sand in part; firm; non- to some slightly calcareous; splintery and platy to some irregular. Minor Shale; dark grayish to grayish black; some may be caving. 2% Cement; stained grayish pink to pale red. No sample show. Total gas 110 - 250 units.
9300′ - 9310′	Shale/Claystone; light greenish to greenish gray, light olive gray; as above. 10% Shale; dark gray to grayish black. 2% Sandstone; light gray, light greenish gray; very fine grained; calcareous; part clayey; no porosity

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visible. 20% Cement; stained grayish pink to pale red. No sample show. Total gas 100 - 400 units.

9310' - 9320' — 20% Sandstone; light greenish to greenish gray; some very light gray with minor dispersed brownish gray clay may be caving from Dakota; calcareous; part very argillaceous; no porosity visible in greenish gray, some fair porosity visible in possible Dakota cavings. Mostly Claystone; light greenish to greenish gray, minor dark grayish red and medium dark gray. 20% Cement. No sample show. Total gas 280 - 80 units.

9320' - 9328' — Shale/Claystone; light greenish to greenish gray, some light olive gray; smooth and partly waxy, some very fine grained sandy; firm; non- to slightly calcareous; splintery and platy, some irregular. 10% Sandstone; light greenish to greenish gray; very fine grained; firm; calcareous; argillaceous; no porosity visible. 2% Cement. No sample show. Total gas 60 - 70 units.

9328' - 9334' — 30% Sandstone; white to light greenish gray, greenish gray; very fine to fine grained; moderately well sorted; firm, some moderately hard; calcareous; trace pyrite; very slightly peppered; no porosity visible. 50% Claystone; light greenish to greenish gray, some light olive gray, minor medium dark gray. 10% Shale; grayish black, may be caving. 10% Cement. No sample show. Total gas 60 - 100 units.

9334' - 9342' — 50% Sandstone; white; very fine to lower fine grained; well sorted; firm, some moderately hard; calcareous, some silica cement; minor glassy broken quartz grains; few gray grains; no porosity visible. 40% Claystone; light greenish to greenish gray, some light olive gray, grayish red, and medium dark gray; smooth to some sandy; non- to moderately calcareous; platy to irregular. 10% Cement. No sample show. Total gas 100 - 350 units.

9342' - 9358' — 60% Claystone and Mudstone; increase grayish red, hints of grayish red purple, dark reddish brown, also light greenish to greenish gray and light olive gray--some hues mixed in streaks; part very fine grained sandy; firm; non- to moderately calcareous; platy to irregular. 30% Shale; dark gray to grayish black, 1% associated coal. 10% Cement; grayish pink, pale red; soft. No sample show. Total gas 250 - 100 units.

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9358' - 9382' — 20% - 10% Sandstone; greenish gray to very light gray; very fine to some fine grains; moderately well sorted; firm, some moderately hard; calcareous, some silica cement; rare orange grains in very light gray chips; no porosity visible. 70% - 80% Claystone and Mudstone; varicolored; somewhat darker downhole. 10% Cement. No sample show. Total gas 50 - 450 units.

9382' - 9400' — 60% Sandstone; white to very light gray, some tinted light greenish gray; small clusters very fine to fine grained, some loose medium to lower coarse subrounded to rounded quartz grains (also rarely dipersed in claystone); slightly to moderately calcareous clusters; no porosity visible, no drilling break. 35% Claystone and Shale; varicolored; similar to above. 5% Cement. No sample show. Total gas 75 - 80 units.

9400' - 9408' — Sandstone; white to very light gray; very fine to lower fine grained; well sorted; firm; slightly to moderately calcareous; minor gray to brownish grains; no porosity visible; slightly faster drilling. Negligible cement. No sample show. Total gas 75 - 150 units.

9408' - 9432' — 40% - 80% Sandstone; white to light gray; very fine to some medium grained; some loose grains and very small clusters; many loose grains are broken and suggest significant silica cement. 40% - 10% Claystone; light to medium dark gray, light greenish to greenish gray, light olive gray, minor grayish red and reddish brown. 20% - 10% Shale dark gray to grayish black; smooth to much silty; carbonaceous; platy to subblocky. 2% - trace Cement. No sample show. Total gas 100 - 80 units.

Note: — Tripped for new bit #14 Hughes ATJ44 in at 9442'.
Trip gas 2100 units; 81% C1, 11% C2, 7% C3, Tr C4, Tr C5.

9432' - 9480' — 70% - 90% Claystone and minor Mudstone; light to medium gray, light greenish to greenish gray, light olive gray, light brownish gray, pale red to dark grayish red, hints of grayish red purple, and reddish brown--minor mottling of red and green; smooth and some waxy, little very fine to fine grained dispersed sand; firm, some moderately hard; non- to some slightly calcareous; platy to irregular.

Trace - 10% Sandstone; very light gray to greenish gray, rare pale red; very fine to medium grains in clusters, some loose fine to medium rounded quartz grains; angular to rounded; well to moderately sorted; firm, some moderately

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hard; mostly calcareous, some silica cement; occasional brownish lithics; part very argillaceous; no porosity visible.

20% to 2% Cement; grayish pink; highest following trip. No sample show. Total gas 100 to 840 units; background gas composition 84% C1, 10% C2, 6% C3, Tr C4, 0% C5. Numerous spikes, no reservoir evident.

9480' - 9490' No sample; shaker bypassed while screens were changed.

9490' - 9500' 90% Claystone; varicolored; with minor streaks of light gray to greenish gray very fine to fine grained sandstone. 10% Cement; grayish pink; soft. No sample show.

9500' - 9525' 60% - 40% Sandstone; very light gray to light greenish gray; very fine to fine grained, minor medium grains in part; well to some moderately sorted; firm, little medium hard; calcareous; trace orange grains and minor brown to gray lithics; no porosity visible. 20% to 40% Claystone; light greenish to greenish gray, light olive gray, minor grayish red to reddish brown; smooth to some sandy. 10% Shale; grayish to brownish black, dark gray; may be caving from Dakota. 10% Cement. No sample show.

9525' - 9545' 30% - 40% Sandstone; very light gray to greenish gray; very fine and fine grained, some medium grains in part; well to moderately sorted; firm, some moderately hard; calcareous; trace orange grains and brown to gray lithics; part very argillaceous; no porosity visible. 30% - 40% Claystone; mostly light greenish to greenish gray and light olive gray, minor grayish red to reddish brown, some medium to medium dark gray; smooth, some sandy. 40% - 20% Cement; grayish pink; soft. No sample show.

9545' - 9564' 10% - Trace Sandstone; pale reddish brown; very fine to lower fine grained; subrounded; well sorted; firm small cuttings; calcareous; trace black lithics; no to slight porosity visible. 10% Sandstone; very light gray to light greenish gray; very fine to medium grained; as above. 50% - 80% Claystone, minor Mudstone; light greenish to greenish gray, light olive gray, minor medium gray, grayish red, tints of grayish red purple, slight increase in dark reddish brown; smooth and partly waxy to some sandy; firm; non- to some moderately calcareous; platy to some irregular. Minor Shale; dark gray to grayish black, may be caving from Dakota. 30% - 10% Cement; grayish pink; soft. No sample show.

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CURTIS FM. TOP: 9564' DATUM: -3895'

9564' - 9590' Sandstone; light to medium gray, much tinted greenish to light olive gray; very fine to fine grained, some medium grains in part; well to some moderately sorted; firm to slightly friable; calcareous; partly argillaceous; slightly glauconitic; no porosity visible. Grades to minor Shale; medium dark gray; silty, partly sandy; firm; slightly calcareous; platy. 10% - Trace Cement; grayish pink. No sample show.

9590' - 9601' Sandstone; very light gray; fine to medium grained; subround to rounded; moderately well sorted; firm; very calcareous; some dispersed brownish gray rounded lime pellets; mostly no to very rare glauconite; trace pink-orange grains; no porosity visible. Trace Limestone; light brownish gray; earthy; firm; no glauconite; no porosity visible. No sample show.

ENTRADA SS. TOP: 9601' DATUM: -3932'

9601' - 9630' Sandstone; white; fine grained; grain shape indistinct; well sorted; firm; non- to little slightly calcareous, mostly silica cement; some glassy broken quartz grains suggest sandstone is moderately hard in subsurface; clean; rare pink-orange grains; mostly no porosity visible, slightly faster drilling downhole. No show.

9630' - 9650' Sandstone; white to very pale orange; fine to medium grained, trace coarse grains; subround, round; well sorted; slightly firm to friable--very small clusters and numerous loose grains; non- to some slightly calcareous; some pink-orange grains; fair to some good porosity visible in clusters, sustained fast drilling break to 0.4 min/ft indicates good porosity. No show.

9650' - 9740' Temporarily poor to fair sample quality likely results from loss of Entrada sand through and/or across shaker screen with resulting concentration of Morrison cavings in samples.

Sandstone; very pale orange, approaching moderate orange-pink; minor very fine grained, mostly fine to medium grained with some coarse grains; subround to round; moderately well sorted; firm to friable, small clusters and

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loose grains; non- to slightly calcareous; trace pink-orange grains; slight to fair porosity in clusters, variable porosity suggested by drilling times from 0.7 to 4.7 min/ft. No sample show.

9740' - 9808' Fair improving to good sample quality. Sandstone; moderate orange pink; mostly fine to medium grained, some coarse; subround to rounded; moderately well sorted; almost entirely loose sand; mostly fast drilling 0.4 to 1.5 min/ft, some slower intervals 2.0 to 6.5 min/ft. No sample show.

CARMEL FM. TOP: 9808' DATUM: -4139'

9808' - 9824' Trace Shale; dark reddish brown. Sandstone; moderate orange pink; as above. No sample show.

9824' - 9850' Minor Sandstone; pale reddish brown; very fine to fine grained; argillaceous; firm; calcareous; no porosity visible. 2% Shale; dark reddish brown to moderate reddish brown where silty; firm; calcareous; subblocky, very small chips. Mostly Sandstone; moderate orange pink, some white; mostly loose fine to medium to some coarse grains; subround, round. No sample show.

Note: Tripped for new bit #15 Reed EHP61A at 9856'. Trip gas 1500 units; 80% C1, 15% C2, 3% C3, 2% C4, Tr C5.

NAVAJO SS. TOP: 9850' DATUM: -4181'

9850' - 9880' Poor sample quality, mostly Morrison claystone recovered in samples. Sandstone. No sample show.

9880' - 9916' Good sample quality. Sandstone; moderate orange pink to some white; dominantly fine grained clusters, some loose medium to lower coarse grains; subround, rounded; well sorted; firm to friable clusters; calcareous; trace pink-orange grains; slight to fair porosity visible. No sample show.

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9916' - 9942'	Fair sample quality. Sandstone; grayish orange pink, some pale red to pale reddish brown; very fine to fine grained, lesser medium grains; well sorted; firm, some loose grains; some argillaceous and silty where darker colored; non- to some moderately calcareous; no to fair porosity visible in clusters. Trace Shale; moderate to dark reddish brown; part silty; firm; calcareous; subblocky. No sample show.
9942' - 9970'	Sandstone; increasingly moderate orange pink; mostly fine grained; subrounded; well sorted; firm, slightly friable; slightly calcareous; slight porosity visible. No sample show.
9970' - 9988'	Good sample quality. Sandstone; moderate orange pink; fine to medium grained, much is loose; subround, round; well sorted. No sample show.
9988' - 10015'	Sandstone; some pale red to pale reddish brown, also moderate orange pink; some very fine to mostly fine grained; well sorted; firm; very slight to some moderately calcareous; no to slight porosity visible. No sample show.
10015' - 10250'	Sandstone; moderate orange pink; mostly loose fine to medium grains; subround, round; well sorted; fast drilling break with few slower intervals downhole which may correlate to minor Sandstone; pale red; very fine to fine grained; well sorted; firm; very slightly calcareous; trace minute black grains; no porosity visible. No sample show.
10250' - 10355'	Sandstone; moderate orange pink, some tinted pale red; some very fine grained to mostly fine grained clusters; loose fine to medium sand decreases downhole; subangular to round; well to some moderately well sorted; friable, some firm; noncalcareous; trace black grains; slight to some fair porosity visible. Trace to 20% Claystone; white, with streaks of grayish black and orange; smeared, much is pulverized; non- to some slightly calcareous; platy. No sample show.
10355' - 10442'	Sandstone; moderate orange pink, some very pale orange downhole; upper very fine grained to fine grained clusters; loose fine to medium sand in parts; some subangular, mostly subround, some round; friable to some firm clusters; non- to some very slightly calcareous/dolomitic; minor glassy broken quartz grains; trace pink/orange and black grains; slight to little fair porosity visible, fast to fair drilling. No sample show.

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10442' - 10472' Sandstone; moderate orange pink to some very pale orange; at base 10% Redbeds--moderate reddish orange to moderate reddish brown; very fine to fine grained, some loose medium grains; friable to firm clusters; non- to some slightly calcareous/dolomitic; increased silica cement indicated by some glassy broken quartz grains and slowest drilling in Navajo; trace pink orange and black grains; no to slight porosity visible. No sample show.

CHINLE FM. TOP: 10472' DATUM: -4803'

Remark: Diagnostic spot sample at 10488' rig depth contains 70% redbeds but samples at 10490' and 10500' contain mostly Navajo and lesser Morrison cavings--only minor Chinle redbeds.

10472' - 10514' 5% gradually increasing to 60% Redbeds. Gradational and interbedded Sandstone; moderate reddish orange; very fine grained; well sorted; firm; no to slight carbonate cement; quite clean to very silty and slightly argillaceous; trace minute black grains; no porosity visible. Also Siltstone; moderate reddish orange to moderate reddish brown; slightly to very argillaceous; very fine grained sandy in part; some minute black specks; platy to blocky; small cuttings. 20% to 5% Shale; dark reddish brown; smooth, some silty; firm; noncalcareous; platy, some subblocky. No sample show. Total gas 150 to 30 units.

10514' - 10545' Sandstone; grayish pink, tinted moderate orange pink downhole; upper very fine to fine grained, fines upward; subangular to subrounded; well sorted; firm; non- to little slightly dolomitic; quite clean, trace black grains; no porosity visible, slight drilling break; correlates to sandstone 8628' - 8648' at Anschutz USA 4450 #11-12. No sample show.

Note: Tripped for new bit #16 Hughes ATJ55R in at 10549'. Trip gas 1260 units; 84% C1, 10% C2, 5% C3, 1% C4, 0% C5.

In first sample following trip: 20% Cement; faintly tinted pink--less red than uphole; soft and rounded chips to some firm, blocky, and subrounded. Subsequent samples have virtually none.

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10545' - 10600' 90% Redbeds. Mostly Siltstone; pale reddish brown to moderate reddish orange; some very fine grained sandy, much argillaceous; firm, some moderately hard; slightly calcareous/dolomitic; trace anhydrite; some smeared platy to subblocky. Some Shale; dark reddish brown; silty; firm; very slightly calcareous/dolomitic; platy, subblocky. Minor Sandstone; pale reddish brown to moderate reddish orange; very fine grained; silty, partly argillaceous; slightly calcareous/dolomitic; no porosity visible. No sample show.

10600' - 10630' Shale; grayish red to nearly dusky red, some streaks and mottling of light gray to pale red; smooth, little silty; firm; noncalcareous; platy; slow drilling correlates to basal shale of Chinle at Anschutz USA 4450 #11-12. Trace Anhydrite; white; moderately soft to firm; partly calcareous. No sample show. Total gas 45 - 80 units.

Note: Good sample quality.

SHINARUMP SS. MBR. TOP: 10630' DATUM: -4961'

10630' - 10652' 5% - 10% Sandstone; loose medium and coarse quartz and and possible feldspar grains; clear, some milky; angular freshly broken quartz suggests very coarse grains to possible pebbles; subrounded grains are commonly stained grayish red; trace fine to medium grained moderately sorted clusters, some may be conglomeratic; noncalcareous; some white to grayish pink to pale red siliceous fill; slight drilling break. Mostly Shale; grayish red; as above. No sample show. Total gas 100 - 35 units.

MOENKOPI FM. TOP: 10652' DATUM: -4983'

10652' - 10740' Shale; grayish red, some mottled pale red, trace light gray to light greenish gray spots; smooth textured, rare floating medium sand grains; firm, some moderately soft; mostly noncalcareous; platy. 5% to 20% interbedded Siltstone; moderate reddish brown; firm; calcareous; some very fine grained sandy, part argillaceous; platy, subblocky. Minor possible Shale; moderate reddish brown,

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smeared to soft platy chips. No show. Total gas 25 - 90 units.

10740' - 10800' Shale; grayish red, some mottled pale red, trace light gray to light greenish gray spots; smooth textured, rare floating medium sand grains; firm, some moderately soft; mostly noncalcareous; platy.

30% to 50% interbedded and gradational Siltstone; moderate reddish brown; firm; slightly to moderately calcareous; some very fine grained sandy, part argillaceous; some biotite and muscovite; platy, subblocky and Sandstone; moderate reddish brown to little moderate reddish orange; very fine grained; firm; slightly to some very calcareous; part slightly peppered; commonly silty; some biotite and muscovite; no porosity visible. Trace Anhydrite; white. Minor possible Shale; moderate reddish brown, smeared to soft platy chips. No sample show. Total gas 40 - 450 units.

Note: Mud loggers caught 5-ft samples 10800' - 10900'; geologist caught additional 5-ft samples between mud loggers' samples (effective 2.5 ft sample interval). Ran two carbide lag checks, both 72 min bottoms up.

10800' - 10825' Increased Shale; grayish red, tinted dark reddish brown in part; some faint pale red mottling, trace light gray to light greenish gray spots; moderately smooth textured; noncalcareous; platy. Variable 20% to 5% Siltstone; moderate reddish brown; some argillaceous, part very fine grained sandy. No sample show. Total gas 50 - 150 units.

10825' - 10853' Interbedded. 60% to 20% Siltstone; moderate reddish brown; commonly argillaceous, some very fine grained sandy; firm, moderately soft; moderately to some very calcareous; subblocky, rounded. Grades to 10% Sandstone; moderate reddish orange to moderate reddish brown; part silty, some argillaceous; firm, moderately soft; calcareous, some chips decrepitate rapidly in dilute HCl; slightly peppered; slightly anhydritic; some micaceous; no porosity visible. 30% to 70% Shale; grayish red, tinted dark reddish brown. No sample show. Total gas 150 - 50 units.

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SINBAD MARKER: TOP: 10853' DATUM: -5184

10853' - 10862' 1% in samples: Thin Dolomite; grayish pink to pale red; microcrystalline, earthy; some fine to lower coarse grained pelloids--some solid pale red or rimmed pale red; firm; nonargillaceous; anhydritic; some very fine to fine grained sandy; no porosity visible, no fast or slow drilling break. No show; total gas 100 units.

MOENKOPI FM. CONTINUED

10862' - 10900' Interbedded. Mostly Siltstone; moderate reddish brown to some moderate reddish orange; part very fine grained sandy, commonly argillaceous; firm, some moderately soft; slightly to moderately calcareous; abundant mica in part; platy, subblocky. Grades to 10% to 20% Sandstone; moderate reddish brown; very fine to rare fine to medium grains; well to some moderately sorted; firm; slightly calcareous; muscovite and biotite conspicuous in part; commmonly silty, some argillaceous; no porosity visible. 10% to 30% Shale; dark reddish brown, some grades to grayish red; little smooth, commonly silty; firm; slightly calcareous; streaks very micaceous; platy. No show. Total gas 100 - 40 units.

10900' - 10930' 70% - 90% Shale; grayish red, some mottled pale red, trace light greenish gray spots; moderately smooth; firm; noncalcareous, decrepitates slightly in dilute HCl; platy. 30% - 10% Siltstone and lesser Sandstone; moderate reddish brown; very fine grained; commonly argillaceous; slightly to moderately calcareous; anhydritic; part very micaceous; no porosity visible. No show.

10930' - 11010' Mostly Siltstone; moderate reddish brown; some very fine grained sandy, much is argillaceoos; firm, some moderately soft; slightly to some very calcareous; anhydritic; some very micacaeous; subblocky to bit-smeared platy chips. Lesser Shale; dark reddish brown, some grayish red; moderately smooth, some silty to very fine grained sandy; firm; non- to slightly calcareous; some micaceous; platy, subblocky. 10% to 20% Sandstone; moderate reddish brown; very fine grained; silty, some argillaceous; slightly to very calcareous; anhydritic; part micaceous; no porosity visible. Trace to 2% Sandstone; moderate orange pink; fine grained; firm; non- to slightly calcareous; quite

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clean; no porosity visible. Trace free Anhydrite; white to pink microcrystalline, some sparry; soft to dense. No sample show. Total gas 50 - 320 units.

11010' - 11040' Shale; grayish red, tinted dark reddish brown; minor pale red mottling in part and possible streaks of light greenish gray; moderately smooth; firm, some moderately soft; noncalcareous; platy. Trace loose Quartz Sand; fine to medium; subrounded. No show. Total gas 50 - 100 units.

11040' - 11060' Mostly Shale; grayish red, tinted dark reddish brown, some mottled pale red, streaks of light greenish gray. 5% to 10% Siltstone and Shale; moderate to dark reddish brown. 10% Sandstone; white to light greenish gray, moderate orange pink (possible Navajo cavings); very fine to fine grained clusters, some loose fine to medium grains; non- to slightly calcareous; light greenish gray is micaceous; no porosity visible. No show. Total gas 45 - 80 units.

11060' - 11090' Shale; dark reddish brown; smooth to finely silty; firm; noncalcareous to very slightly dolomitic; some finely micaceous; platy, trace splintery, some bit-smeared thin curved chips; slower drilling. Minor streaks Sandstone; white to light greenish gray; very fine to fine grained; firm; non- to slightly calcareous; light greenish gray is micaceous; no porosity visible. Trace Anhydrite; white to grayish pink; moderately soft to dense; partly calcitic. No sample show. Total gas 40 - 280 units.

11090' - 11120' Interbedded. Shale; dark reddish brown, some moderate reddish brown, little grayish red; smooth textured to silty; firm; non- to slightly calcareous; anhydritic; some finely micaceous; platy, subblocky. Also Siltstone; moderate reddish brown; much is argillaceous, some very fine grained sandy; slightly to moderately calcareous; anhydritic; some micaceous; subblocky. Minor streaks Sandstone; white to light greenish gray; very fine to fine grained, trace medium grains; well to moderately sorted; firm; non- to slightly calcareous; anhydritic; commonly micaceous; no porosity visible. Trace free Anhydrite; white to grayish pink; moderately soft to dense; partly calcitic. No sample show. Total gas 40 - 105 units.

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PHOSPHORIA FM. TOP: 11120' DATUM: -5451'

11120' - 11126' 20% Dolomite; very light to some light gray; microcrystalline, earthy; firm; staining shows minor calicite; anhydritic; very fine grained sandy--grades to minor dolomitic anhydritic sandstone; nonargillaceous; no porosity visible. Trace Anhydrite; white; microcrystalline; soft to firm. Mostly Redbeds. No show. Total gas 40 - 50 units.

Note: Good sample quality; diagnostic recovery of thin carbonate.

11126' - 11201' Interbedded. Much Siltstone; pale to moderate reddish brown, some tinted moderate reddish orange; argillaceous, some very fine grained sandy; firm to moderately soft; slightly to very calcareous, some chips decrepitate in dilute HCl; anhydritic; subblocky.

5% to 20% interbedded and gradational Sandstone; pale reddish brown; lower very fine grained; firm; slightly to moderately calcareous/dolomitic; anhydritic; silty, some argillaceous; part minutely peppered; some slightly micaceous; no porosity visible. Minor streaks of Sandstone; light gray, light greenish gray; very fine to fine grained, minor medium grains; non- to slightly calcareous; part argillaceous; trace gray lithics; no porosity visible. No drill breaks.

20% to 40% Shale; moderate to some dark reddish brown, rare contacts with light greenish gray, lesser grayish red may be caving; quite smooth to silty; non- to slightly calcareous; slightly anhydritic; platy to subblocky, trace splintery where very smooth textured.

No sample show. Total gas 40 - 180 units.

Note: Circulated samples at 11217' rig depth.

11201' - 11206' 30% Anhydrite; white, opaque to some translucent; bit-smeared to soft rounded masses; some firm micro- to very fine crystallne subblocky chips; trace spar; free, some contacting redbeds. 70% Redbeds. No show; 60 units.

Remark: Good sample quality. Correlates to basal anhydrite streak at 9254' - 9256' at Anschutz USA 4450 #11-12.

11206' - 11208' Redbeds: 30% Sandstone; mostly lower very fine grained; subangular; well sorted; firm; slightly dolomitic;

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anhydritic; part minutely peppered; part silty; no porosity visible. Grades to 40% Siltstone; pale to moderate reddish brown; very fine grained sandy, some argillaceous; slightly to moderately calcareous; subblocky. 30% Shale; dark reddish brown, lesser grayish red; smooth to silty; firm; non- to very slightly calcareous; platy, subblocky. Trace Anhydrite. No show; 60 units.

WEBER SS. TOP: 11208' DATUM: -5539'

Note: Tripped for core #1 at top of Weber. Board 11222'; SLM 11222.45'. Trip gas 1540 units; 84% C1, 12% C2, 3% C3, 1% C4, Tr C5.

Core #1: 11208' - 11268' log depth, 11222' - 11282' rig depth; averaged 2.8 ft/hr. Recovered 60 ft Sandstone, minor streaks of shale. Core was described by Lorraine Druyff of Anschutz Exploration.

Remark: Core was difficult to break on connection at 11253' rig depth; pulled 45,000 lbs over string weight.

Core #2: 11268' - 11293' log depth, 11282' - 11307' rig depth; averaged 4.5 ft/hr, 6 ft/hr for last 6 ft. Core barrel jammed. Recovered 25 ft, mostly sandstone. Core was described by Lorraine Druff of Anschutz Exploration.

Cuttings samples while coring are mainly red shale, 10% - 20% Sandstone; white to light gray; fine to very coarse grained tight clusters and loose sand. No sample show.

Trip gas at 11282' rig depth was 2200 units; 71% C1, 13% C2, 10% C3, 6% C4, 0% C5. FID gas remained "spikey", increasing to final reading of 4600 units; 78% C1, 11% C2, 7% C3, 4% C4, 0% C5.

DST #1: 11215' - 11293' log depth, 11229' - 11307' rig depth; 78 ft tested. Times 15-30-120-240 min. Tool opened with weak surface blow in bucket, remained weak through initial open. Tool reopened with no blow and remained dead through final open. Recovered 240 ft of very slightly gas cut drilling mud, no show of oil.

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Notes:	Left pieces of packer rubber from both packers in hole; missing 9" X 19" piece from short lower packer. Tripped in with rerun bit Hughes ATJ55R to clean out packer rubber.
	Trip gas 11,900 units; 65% C1, 16% C2, 12% C3, 5% C4, 2% C5. Gas composition is similar to that from Niobrara gas peaks, richer than that from Dakota shows.
	Drilled on and beside packer rubber without geolograph engaged from 11293' - 11309' log depth, 11307' - 11323' rig depth. First 10 ft drilled rapidly (estimated 1 min/ft at best).
11293' - 11321'	Sandstone; white to medium light gray, some grayish pink to minor pale red; very fine to very coarse grained--much loose sand and subordinate clusters; angular--many freshly broken grain fragments--to subrounded; moderately sorted clusters; clusters firm, friable sandstone suggested by parts which drilled rapidly; non- to some slightly calcareous; quartz, feldspar (some orange pink), muscovite and biotite; no porosity visible in clusters; drilling from 11323' - 11337' rig depth varied from 2.8 to 9.2 min/ft while cleaning out remainder of packer rubber. Minor Sandstone; white; very fine to fine grained; bitumen filled; may be caving. No live sample show.
	10% to 20% Shale; grayish red to reddish brown; smooth to silty and micaceous; firm; non- to some slightly calcareous; subblocky.
FID Gas:	"Spikey" throughout. Background 2000 - 3000 units; 56% C1, 22% C2, 12% C3, 8% C4, 2% C5. Connection gas at 11323' 10,900 units; 72% C1, 16% C2, 8% C3, 3% C4, 1% C5. Maximum 13,800 units; 67% C1, 14% C2, 10% C3, 7% C4, 2% C5. Gas composition is more similar to that from Niobrara than that from Dakota (which is comparatively low in heavier gases). Non-Weber source is suggested but not proven.
Note:	Recovered pieces of drilled packer rubber. Board 11337'; SLM 11335.65'; correction made. Trip gas 13,600 units at 11,335'; 54% C1, 18% C2, 12% C3, 12% C4, 3% C5. Ran mud through gas buster; gas burned with 4 - 6 ft orange flare.
Core #3:	11321' - 11330' log depth, 11335' - 11344' rig depth; averaged 11.6 ft/hr for first 8 ft, 2.8 ft/hr for last foot. Core bit flattened. Recovered 7.5 ft of sand. Core was described by Lorraine Druyff.

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Note:	Reran bit #16 Hughes ATJ55R. Trip gas 15,600 units at 11344'; 56% C1, 18% C2, 13% C3, 10% C4, 2% C5.
11330' - 11350'	Sandstone; grayish orange pink; fine to coarse grained, many loose quartz grains; subrounded to angular, many freshly broken grains; non-calcareous; micaceous; no porosity visible. Trace Shale; grayish red to medium gray to light olive gray. No sample show. Total gas 11000 - 1000 units.
11350' - 11370'	Sandstone; grayish orange pink; fine to coarse, some upper coarse, mostly loose poorly sorted grains, but some very fine grained, well sorted small clusters, possibly matrix between larger grains; clusters have calcareous cement and readily break apart in HCl; trace mica; no porosity visible. Trace Shale, grayish red to grayish red purple to medium gray. No sample show. Total gas 1000 - 2500 units.
11370' - 11458'	Sandstone; grayish orange pink; fine to coarse, virtually all loose grains; poorly sorted; mostly clear to orangish quartz, some feldspar; many broken grains; trace mica. Trace Shale; mostly grayish red. No sample show. Total gas 500 - 10000 units, "spikey"; connection gas to 11000 units; 66% C1, 19% C2, 10% C3, 4% C4, 1% C5.
11458' - 11650'	Sandstone; moderate orange pink; very fine to fine, occasional medium to coarse grains, subangular; moderately to poorly sorted; friable, abundant loose grains; clusters calcareous; some feldspar, muscovite and biotite; no porosity visible. Trace Sandstone; moderate pink to greyish red, various colored grains in each cutting, overall color depends on ratio of clear to colored grains; very fine to very coarse; poorly sorted; firm to hard; non- to very slightly calcareous; occasional mica; no visible porosity. Trace Sandstone from 11520' - 11530' and 11610' - 11630'; light olive gray; very fine grained, subrounded to subangular; well sorted; firm; non- to slightly calcareous; no visible porosity. Trace Siltstone; greyish red, very micaceous. Trace Shale increasing downhole; varicolored, mostly dark reddish brown, greenish gray, and medium dark to dark gray; some red and white or red and green showing oxidation-reduction boundaries. Trace soft, white, orange and black mottled, bit-smeared cuttings. At 11510' - 11530' 5% to trace Cement. At 11560' - 11600' 20-40% Cement. Trace Cement 11600' - 11650'. No sample show. Total gas 150 - 10600 units.

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Note: Tripped for bit #19 Hughes J55 in at 11541'. Trip gas 13,600 units; 65% C1, 17% C2, 10% C3, 6% C4, 2% C5.

11650' - 11690'TD Sandstone; moderate orange pink; very fine to fine grained in clusters, abundant loose fine to upper coarse quartz and feldspar grains, trace broken grains increasing downhole; well sorted fine grained clusters are matrix of poorly sorted sandstone; noncalcareous; tiny mafic specks; some white clay fill; no visible porosity. Trace Sandstone; moderate pink to greyish red, various colored grains in each cutting, overall color depends on ratio of clear to colored grains; very fine to very coarse; poorly sorted; firm to hard; noncalcareous; occasional mica; no visible porosity. Trace soft, white, orange and black mottled, bit smeared cuttings.

No sample show. Total gas 100 - 150 units; 86% C1, 10% C2, 3% C3, 1% C4, 0% C5.

FID Gas: Ran logs. Circulated trip gas after 41 hours of noncirculation. Maximum 20-25 ft flare through gas buster. Last carbide lag 107 min at 11571'.

Gas Buster	Circ.	Total	Chromatograph Relative% C1	C2	C3	C4	C5
Off	0 min	14000	--	--	--	--	--
Off	20 min	16000	67%	17%	15%	Tr	Tr
On	30 min	12800	40%	21%	21%	15%	3%
On	35 min	9000	52%	13%	13%	14%	6%
On	40 min	6000	64%	15%	10%	9%	2%
On	43 min	4000	--	--	--	--	--
Off	44 min	8000	--	--	--	--	--
Off	60 min	3000	--	--	--	--	--
Off	90 min	7400	57%	18%	15%	9%	2%
Off	105 min	11800	68%	17%	10%	4%	1%
Off	120 min	3400	--	--	--	--	--
Off	150 min	2800	--	--	--	--	--

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CORE DESCRIPTIONS

The following core descriptions were kindly provided by Lorraine Druyff of Anschutz Exploration Corporation.

Core #1:	11222' - 11282.3' rig depth. Recovered 60.3 ft.
11222' - 11223'	Silt/Dolomite; very fine grained; angular silt in dolomite and siliceous matrix; no show.
11223' - 11224'	Sandstone; grey; very fine to coarse grained; poorly sorted; silica and spotty calcite cement; no show. (Alluvial.)
11224' - 11225'	Sandstone; upper very fine grained; well sorted; calcite, silica, and bitumen plugged porosity; no live oil show. (Dune.)
11225' - 11226'	Sandstone; grey; quartz, feldspar, mica; silica, clay and calcite cement; very fine to coarse grained; poorly sorted; no show. (Alluvial.)
11226' - 11227'	Sandstone; brown; very fine grained and silty; dolomite cement; no show. (Interdune or sand sheet.)
11227' - 11233'	Sandstone; grey, minor brown; fine grained to conglomerate; moderately to poorly sorted; calcite, silica, and clay cement; traces of ring residues. (Alluvial.)
11233' - 11234'	Silt; orange; dolomitic; no show. (Alluvial.)
11234' - 11235'	Shale; red; silty; no show. (Wet environment.)
11235' - 11237'	Sandstone; pink and red; fine to medium grained; moderately sorted; calcite, silica, and clay cement; quartz, feldspar, mica; no show. (Alluvial.)
11237' - 11238'	Shale; red brown; silty; no show. (Wet environment.)
11238' - 11240'	Sandstone; grey; fine grained; well sorted; clay, silica, and calcite plugged porosity; no show. (Alluvial.)
11240' - 11241'	Shale; red brown; silty; no show. (Wet environment.)
11241' - 11242'	Silt; tan and grey; no show. (Wet environment.)
11242' - 11245'	Sandstone; red and grey; very fine to coarse grained; moderately to poorly sorted; calcite, silica, and clay cement; very poor to trace cut fluorescence. (Alluvial.)

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11245' - 11246'	Shale; red; silty; no show. (Alluvial/Wet environment.)
11246' - 11260'	Sandstone; red, pink, and grey; moderately to poorly sorted; predominately silica and clay plugged with minor calcite; no show. (Alluvial.)
11260' - 11261'	Sandstone; brown-grey; very fine and coarse bimodal; calcite, silica, and minor clay; poor cut fluorescence. (Sand sheet or interdune.)
11261' - 11262'	Sandstone; black and white crossbedded; bitumen, calcite, and silica plugged porosity; poor cut fluorescence. (Dune toe.)
11262' - 11269'	Sandstone; light brown; very fine grained; well sorted and very fine/very coarse bimodal; silica, calcite, and minor clay; fair cut fluorescence. (Sand sheet or interdune.)
11269' - 11277'	Sandstone; black and white; high angle bedding; very fine to fine grained; well sorted; abundant bitumen plugging; clay, silica, and calcite cement; fair to good cut fluorescence. (Dune sand.)
11277' - 11278'	Sandstone; light brown; very fine to medium grained; moderately sorted; calcite, clay and silica cement; trace cut fluorescence. (Sand sheet or interdune.)
11278' - 11279'	Interbedded Sandstone and Shale; fine grained; well sorted; silica and clay cement; no show. (Questionable.)
11279' - 11282'	Sandstone; grey; medium grained to conglomerate; poorly sorted; heavy clay with calcite and silica cements; no show. (Alluvial.)
Core #2:	11282' - 11307.3' rig depth. Recovered 25.3 ft.
11282' - 11296'	Sandstone and Conglomerate; grey and red; fine grained to conglomerate; silica, calcite and heavy clay in bottom half; two feet with minor bitumen and poor cut fluorescence. (Alluvial.)
11296' - 11300'	Shale; red; silty; no shows. (Wet environment.)
11300' - 11301'	Silt; red; very shaley; no shows. (Wet environment.)
11301' - 11307'	Sandstone; pink and orange; fine grained to conglomerate; clay, silica, and calcite cement; no shows. (Alluvial.)

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CORE DESCRIPTIONS

Core #3: 11307' - 11314' rig depth. Recovered 7 ft.

11307' - 11314' Sandstone and Conglomerate; red and pink; fine grained to conglomerate; clay, calcite, and silica cement; no shows. (Alluvial.)

Note: All alluvial sediments contain quartz, feldspar, and micas.

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DRILL STEM TEST #1

Schlumberger ran conventional open hole test of Weber Sandstone on 19 September 1995. Ran one long packer on top and one standard packer on bottom.

TEST INTERVAL:	11229' - 11307' rig depth; 11215' - 11293' log depth.

PACKERS:				
Upper Packer:	11223'			
Lower Packer:	11229'			
TD at Test:	11307'			
PRESSURES (psi):	Gauge at 11255'			
Initial Hydrostatic:	5429 psi			
Initial Flow:	108 psi	to	108 psi	15 min
Initial Shut-In:	126 psi			31 min
Final Flow:	97 psi	to	102 psi	118 min
Final Shut-In:	154 psi			244 min
Final Hydrostatic	5406 psi			

RECOVERY:	240 feet of very slightly gas cut drilling mud, no show of oil.
SAMPLER:	.75 psi 2450 cc mud 0 cc oil 0 cc water
BLOW:	Tool opened with weak surface blow. Tool reopened with no blow and remained dead through 2nd open and 2nd shut-in periods.
TEMPERATURE:	240 deg F

APPARENT SALINITY:	
Pit Mud:	700 ppm
Pipe Recovery:	700 ppm
Sampler:	700 ppm

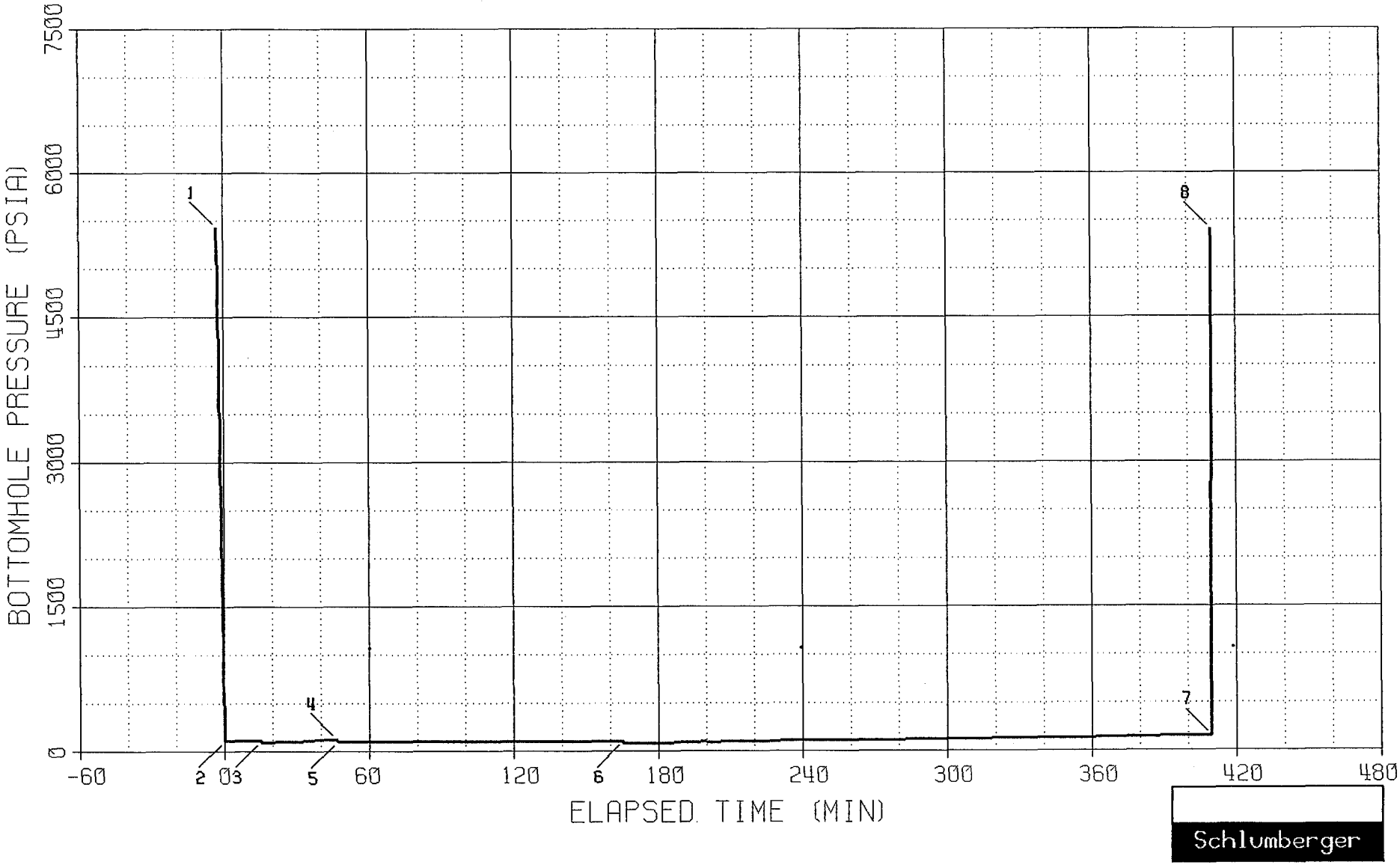
REMARKS:	Lost 9" by 19" piece of rubber from lower packer.

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 142562
INSTRUMENT NO. J-290
DEPTH : 11255 FT
CAPACITY : 9000 PSI
PORT OPENING : OUTSIDE

COMPANY : ANSCHUTZ EXPLORATION CORP.
WELL : TEXAS CREEK #14-22

Mechanical Recorder Data



Anschutz Exploration Corporation
Texas Creek #14-22

LOG CALCULATIONS

Wasatch Depth	Ohm-m	PhiS	PhiN	PhiD	Sonic Rwa	Avg ND Rwa	Sonic % Sw	Avg ND % Sw
2143	30.0	25.0	15.0	18.0	1.88	0.82	38	57
2144	60.0	24.0	15.0	20.0	3.46	1.84	28	38
2145	70.0	23.5	15.5	19.5	3.87	2.14	26	35
2146	65.0	23.0	16.0	18.5	3.44	1.93	28	37
2147	65.0	22.0	16.2	17.5	3.15	1.85	29	38
2148	70.0	20.0	17.0	17.5	2.80	2.08	31	36
2149	85.0	17.0	16.5	17.5	2.46	2.46	33	33
2150	100.0	16.0	15.5	17.5	2.56	2.72	32	31
Maximum	100.0	25.0	17.0	20.0	3.87	2.72	38	57
Minimum	30.0	16.0	15.0	17.5	1.88	0.82	26	31
Average	68.1	21.3	15.8	18.3	2.95	1.98	31	38

Parameters:					
		a =	1	Delta Tma:	56
		m =	2	Neutron Matrix:	Sandstone
Rw =	0.27	n =	2.00	Grain Density:	2.65

Anschutz Exploration Corporation
Texas Creek #14-22

LOG CALCULATIONS

Dakota Depth	Ohm-m	PhiS	PhiN	PhiD	Sonic Rwa	Avg ND Rwa	Sonic % Sw	Avg ND % Sw
8782	30	11.0	13.0	19.0	0.36	0.77	44	30

Dakota Depth	Ohm-m	PhiS	PhiN	PhiD	Sonic Rwa	Avg ND Rwa	Sonic % Sw	Avg ND % Sw
8800	30	11.0	10.0	18.0	0.36	0.59	44	35
8801	40	13.0	6.0	22.0	0.68	0.78	32	30
8802	70	14.5	5.0	13.0	1.47	0.57	22	35
8803	100	14.5	5.0	28.0	2.10	2.72	18	16
8804	95	14.0	5.0	17.0	1.86	1.15	19	25
8805	60	13.0	4.0	14.0	1.01	0.49	26	38
8806	40	14.0	5.0	11.0	0.78	0.26	30	52
8807	35	16.0	8.0	24.0	0.90	0.90	28	28
8808	30	15.0	8.0	22.0	0.68	0.68	32	32
8809	30	14.5	7.0	30.0	0.63	1.03	33	26
8810	35	14.2	7.0	30.0	0.71	1.20	31	24
8811	30	14.0	6.0	16.0	0.59	0.36	35	44
8812	30	14.0	8.0	13.0	0.59	0.33	35	46
Maximum	100	16.0	10.0	30.0	2.10	2.72	44	52
Minimum	30	11.0	4.0	11.0	0.36	0.26	18	16
Average	48	14.0	6.5	19.8	0.95	0.85	30	33

Parameters:					
		a =	1	Delta Tma:	51.3
		m =	2	Neutron Matrix:	Sandstone
Rw =	0.07	n =	2.00	Grain Density:	2.65

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LOG CALCULATIONS

Dakota Depth	Ohm-m	PhiS	PhiN	PhiD	Sonic Rwa	Avg ND Rwa	Sonic % Sw	Avg ND % Sw
8876	11.0	19.0	12.0	9.0	0.40	0.12	42	76
8877	9.0	18.5	20.0	18.0	0.31	0.32	48	46
8878	8.0	17.5	15.0	15.0	0.25	0.18	53	62
8879	7.5	17.0	15.0	15.0	0.22	0.17	57	64
8880	7.5	16.0	16.0	16.0	0.19	0.19	60	60
8881	7.5	13.0	15.0	15.0	0.13	0.17	74	64
Maximum	11.0	19.0	20.0	18.0	0.40	0.32	74	76
Minimum	7.5	13.0	12.0	9.0	0.13	0.12	42	46
Average	8.4	16.8	15.5	14.7	0.25	0.19	56	62

Dakota Depth	Ohm-m	PhiS	PhiN	PhiD	Sonic Rwa	Avg ND Rwa	Sonic % Sw	Avg ND % Sw
8892	20.0	9.0	8.0	26.0	0.16	0.58	66	35
8893	600.0	10.0	20.0	27.0	6.00	33.14	11	5
8894	450.0	13.5	12.0	23.0	8.20	13.78	9	7
8895	50.0	14.2	14.0	11.0	1.01	0.78	26	30
8896	30.0	14.0	8.0	15.0	0.59	0.40	35	42
Maximum	600.0	14.2	20.0	27.0	8.20	33.14	66	42
Minimum	20.0	9.0	8.0	11.0	0.16	0.40	9	5
Average	230.0	12.1	12.4	20.4	3.19	9.73	29	24

Parameters:					
		a =	1	Delta Tma:	51.3
		m =	2	Neutron Matrix:	Sandstone
Rw =	0.07	n =	2.00	Grain Density:	2.65

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LOG CALCULATIONS

Dakota Depth	Ohm-m	PhiS	PhiN	PhiD	Sonic Rwa	Avg ND Rwa	Sonic % Sw	Avg ND % Sw
8931	5.0	20.0	18.0	17.0	0.20	0.15	59	68
8932	6.0	18.0	20.0	22.0	0.19	0.26	60	51
8933	7.0	16.0	15.0	12.0	0.18	0.13	63	74
8934	9.0	14.0	14.5	12.0	0.18	0.16	63	67
8935	9.5	13.5	14.0	13.0	0.17	0.17	64	64
8936	9.0	15.0	13.0	14.0	0.20	0.16	59	65
8937	8.5	18.0	16.0	12.0	0.28	0.17	50	65
8938	8.0	19.5	22.0	7.0	0.30	0.17	48	65
8939	7.0	20.5	14.0	11.0	0.29	0.11	49	80
8940	6.0	19.0	14.0	15.0	0.22	0.13	57	74
8941	6.0	15.0	20.0	15.0	0.14	0.18	72	62
8942	6.0	12.5	20.0	18.0	0.09	0.22	86	57
8943	6.0	12.0	17.0	14.0	0.09	0.14	90	70
8944	6.5	10.5	15.0	12.0	0.07	0.12	99	77
8945	8.0	9.5	15.0	10.0	0.07	0.13	98	75
Maximum	9.5	20.5	22.0	22.0	0.30	0.26	99	80
Minimum	5.0	9.5	13.0	7.0	0.07	0.11	48	51
Average	7.2	15.5	16.5	13.6	0.18	0.16	68	67

Dakota Depth	Ohm-m	PhiS	PhiN	PhiD	Sonic Rwa	Avg ND Rwa	Sonic % Sw	Avg ND % Sw
8972	6.0	17.0	11.0	11.0	0.17	0.07	64	98
8973	5.0	18.5	12.0	12.0	0.17	0.07	64	99
8974	4.0	18.0	13.0	13.0	0.13	0.07	73	102
8975	4.5	18.0	15.0	14.0	0.15	0.09	69	86
Maximum	6.0	18.5	15.0	14.0	0.17	0.09	73	102
Minimum	4.0	17.0	11.0	11.0	0.13	0.07	64	86
Average	4.9	17.9	12.8	12.5	0.15	0.08	68	96

Parameters:					
		a =	1	Delta Tma:	51.3
		m =	2	Neutron Matrix:	Sandstone
Rw =	0.07	n =	2.00	Grain Density:	2.65

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SERVICES

CONTRACTOR:	Kenting-Apollo Drilling, Inc. Rig #4 Toolpushers: Wayne Olson James McManigal Drillers: Don Taylor Mark Scott Bill Morgan Bill Morgan, Jr. Randal Bohnet	Mills, WY
SUPERVISION:	Enmarc, Inc. Ken Clare	Denver, CO Vernal, UT
MUD:	Francis Drilling Fluids Supervisor: Greg Sittig Engineers: Steve Renfro Tom Puckett	Crowley, LA
MUD LOGGING:	Chief Well Logging Co. Bill Small Stan Collins Relief: Larry Vodall Ross Free Bob Francke	Denver, CO
H2S SAFETY:	Oilind Safety Greg Jundt	Denver, CO
SAMPLE LIBRARIES:	Anschutz Exploration Corporation Mitchell Energy Corporation	Denver, CO The Woodlands, TX
WELLSITE GEOLOGY:	T. M. McCoy & Co., Inc. Tim McCoy John Sherman	Wilson, WY
CORES:	Baker-Hughes-Inteq Tom Abplanalp	Vernal, UT
CORE ANALYSIS:	Precision Core Analysis Steve Leeds Paul Hyams Grant Koenekamp	Denver, CO
DRILL STEM TESTS:	Schlumberger Mike McCurdy	Vernal, UT
LOGS:	Schlumberger Engineers: Mike Jardon Paul Beamer	Vernal, UT

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DAILY OPERATIONS

Cumulative days from spud, depth at start of day (12:00 AM), hours, and activity are taken from the rig tour sheets.

Day	Date	Depth	Time	Operation
	7-15	85′	-----	Put derrick together and set bottom sub.
	7-16	85′	-----	Rig up with trucks and crane.
	7-17	85′	-----	Rig up. Raise derrick.
	7-18	85′	21 ---	Rig up.
			3 ---	Nipple up conductor. Pick up BHA. Mix spud mud.
0	7-19	85′	3 ---	Mix spud mud. Nipple up conductor.
			1 1/2	Drill 17 1/2" surface hole 85′ - 107′. Spud 3:00 AM, 19 July 1995.
			1/2	Service rig and tighten kelly.
			5 ---	Drill 107′ - 167′.
			1/2	Survey: 125′ 3/4 deg.
			4 1/2	Drill 167′ - 285′.
			1/2	Survey: 243′ 3/4 deg.
			1 1/2	Drill 285′ - 322′.
			1/2	Reassemble flowline.
			2 ---	Drill 322′ - 401′.
			1/2	Survey: 359′ 1 deg.
			4 ---	Drill 401′ - 515′.
1	7-20	515′	1/2	Survey: 473′ 1 deg.
			8 ---	Drill 515′ - 659′.
			1/2	Survey: 617′ 3/4 deg.
			7 1/2	Drill 659′ - 790′.
			1/2	Survey: 772′ 1 deg.
			1 ---	Short trip.
			1/2	Circulate for casing. Pump 300+ viscosity sweep.
			1 ---	Trip out.
			1/2	Rig up casers.
			3 1/2	Run 19 joints 13 3/8" K55 54.5# casing; set at 790′ KB.
			1/2	Rig up BJ cementers; circulate casing.
2	7-21	790′	1 1/2	Cement.
			4 ---	Wait on cement.
			2 1/2	Cut off conductor and casing and weld on head.
			4 1/2	Weld on head. Let cool. Pressure test to 790 psi (15 min).
			11 1/2	Nipple up.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
3	7-22	790'	2 ---	Pressure test choke lines, choke house, upper and lower kelly cocks, and floor valve.
			3 ---	Pick up stack and change ring; test.
			3 ---	Pick up stack and change spool.
			1 ---	Nipple up spool.
			7 ---	Pressure test pipe rams, blind rams, all valves to 3000 psi.
			1 ---	Install walk around derrick.
			1/2	Service rig.
			2 1/2	Pick up bit and 8" drill collars. Trip in. Pick up jars and crossovers.
			3 ---	Drill cement, plug, and shoe.
			1 ---	Drill 790' - 812'.
4	7-23	812'	3 ---	Drill 812' - 906'.
			1/2	Survey: 864' misrun.
			1/2	Drill 906' - 938'.
			1/2	Survey: 896' 3/4 deg.
			4 ---	Drill 938' - 1127'.
			1/2	Survey: 1083' 1/4 deg.
			3 ---	Drill 1127' - 1379'.
			1/2	Survey: 1337' 1/2 deg.
			6 ---	Drill 1379' - 1631'. Gas show 960 units at 1554'.
			1/2	Survey: 1589' 1/4 deg. Well flowing 1 1/2" stream of mud--probable water flow. Shut off make up water to pits; hole making enough water to keep up with new hole.
			5 ---	Drill 1631' - 1851'.
5	7-24	1851'	1 1/2	Drill 1851' - 1914'.
			1/2	Survey: 1872' 1/4 deg.
			7 ---	Drill 1914' - 2159'.
			1 ---	Gas kick. Mud blew 10-15 ft above floor; shut-in well. Initial drill pipe shut-in: 75 psi; initial casing shut-in: 375 psi. Final drill pipe shut-in: 300 psi; final casing shut-in: 650 psi.
			3 ---	Attempt to circulate gas out--no luck.
			6 ---	Circulate and increase mud weight to 9.4 lb/gal, then 9.7 lb/gal.
			5 ---	Wait on barite. Circulate 9.7 lb/gal mud through choke.
6	7-25	2159'	2 ---	Circulate and increase mud weight to 10.8 lb/gal. Killed well.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
			8 1/2	Drill 2159' - 2352'.
			1/2	Service rig.
			1/2	Repair air quick release for drawworks master clutch.
			1 1/2	Drill 2352' - 2384'.
			1/2	Survey: 2342' 1 1/4 deg.
			2 ---	Pump pill. Trip out 14 stands. Well flowing; gas kick. Shut-in well.
			1 1/2	Pick up dart valve and strip in hole 12 stands.
			6 1/2	Increase mud weight to 11.0 lb/gal to kill well. Circulate through choke.
			1/2	Open Hydril. Circulate and condition hole. Maximum total gas 8400 units.
7	7-26	2384'	1 1/2	Circulate for bit trip.
			4 1/2	Trip out.
			2 1/2	Trip in bit #3 Smith F1 at 2384'. Lay down 6 joints washed drill pipe.
			1 1/2	Wash and ream 220 ft to bottom; 15 ft of fill.
			4 1/2	Drill 2384' - 2447'.
			1/2	Service rig.
			1/2	Drill 2447' - 2454'.
			1/2	Motor overheating.
			1 1/2	Drill 2454' - 2478'.
			1/2	Install mud cleaner.
			2 ---	Drill 2478' - 2510'.
			1/2	Work on pump.
			2 ---	Drill 2510' - 2529'.
			1/2	Center BOP and tighten turn buckle.
			1 ---	Drill 2529' - 2533'.
8	7-27	2533'	6 ---	Drill 2533' - 2668'.
			1/2	Survey: 2624' 3/4 deg.
			6 ---	Drill 2668' - 2792'.
			1/2	Service rig.
			3 1/2	Drill 2792' - 2847'.
			2 1/2	Pump pill. Short trip to base of surface casing. Lay down 3 washed joints.
			2 1/2	Trip in. Work tight hole 2250' - 2350' and 2550' - 2650'.
			1/2	Wash 80 ft to bottom; 5 ft of fill.
			2 ---	Drill 2847' - 2887'.
9	7-28	2887'	5 1/2	Drill 2887' - 3013'.
			1/2	Survey: 2969' 3/4 deg.
			8 ---	Drill 3013' - 3169'.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
			1/2	Service rig.
			2 1/2	Drill 3169' - 3201'.
			2 1/2	Short trip 12 stands. Tight 2950' - 3000' on trip out. On trip in, tight 2636' - 2730' and 2775' - 2975'.
			1 ---	Wash and ream 2975' - 3053'. Trip in 3053' - 3151'. Wash and ream 3151' - 3201'.
			3 1/2	Drill 3201' - 3267'.
10	7-29	3267'	3 1/2	Drill 3267' - 3330'.
			1/2	Survey: 3286' 1/4 deg.
			2 1/2	Drill 3330' - 3362'.
			1 ---	Change head on #1 pump.
			4 ---	Drill 3362' - 3421'.
			1/2	Service rig.
			1 ---	Try to level derrick and remove rotating head.
			8 ---	Drill 3421' - 3543'.
			1/2	Mix and pump pill for short trip.
			2 1/2	Short trip 29 stands to base of surface casing; not tight.
11	7-30	3543'	1/2	Trip in. Wash to bottom.
			1/2	Drill 3543' - 3546'.
			1 ---	Change liner and swab.
			1 ---	Drill 3546' - 3553'. Lost pump pressure and 28K string weight. Twisted off 8" drill collars.
			2 1/2	Trip out to fish.
			1/2	Wait on drill collar inspector and fishing tools.
			9 ---	Pick up overshot. Magnaflux drill collars.
			1 ---	Trip in.
			1/2	Fish.
			4 ---	Trip out with fish.
			1 ---	Break overshot. Lay down fish.
			2 1/2	Magnaflux drill collars. Laid down six bad 8" drill collars.
12	7-31	3553'	3 ---	Make up bit. Pick up new BHA and trip in.
			1/2	Wash and ream 90 ft to bottom.
			2 1/2	Drill 3553' - 3582'.
			1/2	Work on pump.
			6 ---	Drill 3582' - 3677'.
			1/2	Service rig.
			10 1/2	Drill 3677' - 3834'.
			1/2	Survey: 3792' 1 deg.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
13	8-1	3834'	1/2	Clean mud tank.
			2 ---	Drill 3834' - 3866'.
			1 ---	Work on #1 pump.
			7 1/2	Drill 3866' - 3992'.
			1/2	Work tight hole and pump sweep.
			1 1/2	Drill 3992' - 4020'.
			1 1/2	Circulate high viscosity polymer sweep.
			1 ---	Short trip 6 stands.
			2 1/2	Drill 4020' - 4055'.
			1/2	Service rig. Check BOP.
			5 1/2	Drill 4055' - 4149'.
14	8-2	4149'	6 ---	Drill 4149' - 4212'.
			1/2	Survey: 4170' 1 deg.
			2 ---	Drill 4212' - 4244'.
			1/2	Service rig.
			13 1/2	Drill 4244' - 4418'.
			1 1/2	Trip out for additional 8" drill collars and bit.
15	8-3	4418'	1 ---	Trip out.
			3 ---	Level derrick and tighten input chain.
			1 1/2	Pick up BHA.
			1 1/2	Trip in with new bit #5 Smith F15 at 4418'.
			1 1/2	Wash and ream 100 ft to bottom.
			1/2	Work junk sub.
			2 1/2	Drill 4418' - 4441'.
			9 ---	Pull motor shed off to keep motors cooler. Change radiator on #2 floor motor.
			3 1/2	Drill 4441' - 4476'.
16	8-4	4476'	6 ---	Drill 4476' - 4551'.
			1/2	Survey: 4509' 1 deg.
			3 1/2	Drill 4551' - 4583'.
			1/2	Service rig.
			1/2	Level derrick.
			4 1/2	Drill 4583' - 4616'.
			1 ---	Work on #1 pump; change head.
			7 1/2	Drill 4616' - 4681'.
17	8-5	4681'	10 1/2	Drill 4681' - 4772'.
			3 1/2	Pump pill. Trip out.
			2 1/2	Pick up shock sub and 8" drill collar.
			2 1/2	Trip in rerun bit #5 Smith F15 at 4772' and BHA. Cut and slip drilling line.
			1 ---	Service rig. Check BOP.
			1/2	Trip in.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
			1 ---	Fill pipe. Wash and ream 35 ft to bottom; 3 ft of fill.
			2 1/2	Drill 4772' - 4786'.
18	8-6	4786'	12 ---	Drill 4786' - 4874'.
			1/2	Survey: 4818' 1 1/4 deg.
			3 ---	Drill 4874' - 4906'.
			1/2	Service rig.
			7 ---	Drill 4906' - 4968'.
			1 ---	Short trip; hole in good shape.
19	8-7	4968'	14 1/2	Drill 4968' - 5062'.
			1/2	Service rig.
			4 1/2	Drill 5062' - 5093'.
			1/2	Short trip 2 stands; hole in good shape.
			4 ---	Drill 5093' - 5124'.
20	8-8	5124'	4 1/2	Drill 5124' - 5152'.
			2 ---	Work on #2 pump; change swab and work on rod oiler.
			5 1/2	Drill 5152' - 5188'.
			1/2	Survey: 5144' 1 3/4 deg.
			1/2	Service rig.
			3 1/2	Drill 5188' - 5219'.
			1 ---	Short trip 4 stands; hole in good shape.
			6 1/2	Drill 5219' - 5273'.
21	8-9	5273'	9 1/2	Drill 5273' - 5343'.
			1 ---	Service rig. Change oil in #2 floor motor.
			3 1/2	Drill 5343' - 5370'.
			1 ---	Change swab in #2 pump.
			1/2	Mix and pump pill.
				Drop survey: 5331' 1 3/4 deg.
			4 1/2	Trip out for bit.
			2 ---	Trip in bit #6 Hughes GT09 at 5370'.
			1/2	Wash and ream 60 ft to bottom; no fill.
			1 1/2	Drill 5370' - 5379'.
22	8-10	5379'	9 ---	Drill 5379' - 5438'.
			1 ---	Service rig; check BOP. Change oil in #1 floor motor.
			2 1/2	Drill 5438' - 5456'.
			1 ---	Work on pump; change head and liner in #2 pump.
			10 1/2	Drill 5456' - 5557'.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
23	8-11	5557'	15 ---	Drill 5557' - 5719'.
			1/2	Service rig.
			1/2	Survey: 5675' 1 1/4 deg.
			8 ---	Drill 5719' - 5789'.
24	8-12	5789'	7 ---	Drill 5789' - 5844'.
			1 ---	Short trip 6 stands; hole in good shape.
			3 1/2	Drill 5844' - 5875'.
			1/2	Service rig.
			12 ---	Drill 5875' - 5997'.
25	8-13	5997'	5 1/2	Drill 5997' - 6045'.
			1/2	Change O-ring on vibrating hose.
			5 ---	Drill 6045' - 6098'.
			1 ---	Survey: 6048' 1 1/2 deg.
			1/2	Service rig.
			11 1/2	Drill 6098' - 6201'.
26	8-14	6201'	9 ---	Drill 6201' - 6263'.
			1/2	Pump pill. Drop survey: 6219' 2 deg.
			2 ---	Trip out drill pipe.
			5 1/2	Magnaflux BHA. Laid down three 6 1/2" drill collars and crossover.
			4 ---	Trip in at 6263' with new bit #7 Reed HP43A. Pick up three 6 1/2" drill collars; change jars. Trip in.
			1 ---	Ream 102 ft to bottom.
			2 ---	Drill 6263' - 6267'.
27	8-15	6267'	7 ---	Drill 6267' - 6309'.
			1/2	Work and ream tight connection.
			4 1/2	Drill 6309' - 6340'.
			1/2	Work tight connection.
			1/2	Service rig.
			1 ---	Repair air line on master clutch.
			1 1/2	Drill 6340' - 6345'.
			2 ---	Lost 250 psi pump pressure loss; pump flag. Trip out.
			1 ---	Work tight hole 4711' - 4273'.
			2 1/2	Trip out for hole in string to drill collars but did not find hole.
			1/2	Pick up kelly and check pressure.
			1 ---	Trip in looking for hole in drill pipe. Two bad joints (box and pin washed) at 35 stands and double out of hole. Trip in.
			1/2	Work tight hole.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
			1 ---	Trip in.
28	8-16	6345'	1 ---	Ream 78 ft to bottom; 4 ft of fill.
			2 ---	Unball bit.
			3 1/2	Drill 6345' - 6381'.
			1 ---	Work on #1 pump.
			2 1/2	Drill 6381' - 6399'.
			1/2	Service rig. Work pipe rams.
			5 1/2	Drill 6399' - 6431'.
			1/2	Tight connection at 6431'.
			7 1/2	Drill 6431' - 6469'.
29	8-17	6469'	3 1/2	Drill 6469' - 6488'.
			1 ---	Change swab and liner in #1 pump.
			1 ---	Drill 6488' - 6495'.
			1 ---	Work on #1 pump; change middle liner and gasket.
			3 1/2	Drill 6495' - 6524'.
			1/2	Tight connection at 6524'.
			1/2	Service rig. Check BOP.
			1 ---	Drill 6524' - 6537'.
			1 ---	Work tight hole and unball bit.
			2 ---	Drill 6537' - 6555'.
			1/2	Tight hole.
			3 1/2	Drill 6555' - 6585'.
			1 ---	Tight hole.
			1/2	Drill 6585' - 6589'.
			3 1/2	Work on #1 pump; change wear plate behind middle riser.
30	8-18	6589'	1/2	Work on #1 pump.
			1 ---	Drill 6589' - 6596'.
			1/2	Work on #1 pump; change swab.
			5 1/2	Drill 6596' - 6631'.
			1/2	Tight hole.
			1 1/2	Drill 6631' - 6646'.
			1/2	Tight hole.
			1 ---	Survey: 6604' 1 3/4 deg. Service rig; check BOP.
			3 ---	Drill 6646' - 6661'.
			1/2	Tight hole.
			4 ---	Drill 6661' - 6687'.
			2 ---	Work tight hole. Short trip 5 stands.
			3 1/2	Drill 6687' - 6704'.
31	8-19	6704'	9 1/2	Drill 6704' - 6749'.
			1/2	Mix and pump pill.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
			1/2	Survey: 6727' 2 deg.
			6 1/2	Trip for bit #8 Hughes GT09 in at 6749'.
			1 ---	Cut drilling line.
			2 ---	Trip in. Fill pipe.
			1/2	Wash and ream 22 ft to bottom; 4 ft of fill.
			1 1/2	Drill 6749' - 6757'.
			1/2	Change shaker screen to 60 mesh.
			1 1/2	Drill 6757' - 6769'.
32	8-20	6769'	1/2	Ream tight hole.
			1 ---	Drill 6769' - 6780'.
			1/2	Tight hole.
			9 ---	Drill 6780' - 6862'.
			1/2	Service rig; check BOP.
			12 1/2	Drill 6862' - 6976'.
33	8-21	6976'	4 ---	Drill 6976' - 7016'.
			1/2	Repack swivel.
			5 1/2	Drill 7016' - 7078'.
			1/2	Service rig.
			13 1/2	Drill 7078' - 7232'.
34	8-22	7232'	6 ---	Drill 7232' - 7298'.
			1 ---	Survey: 7254' 2 deg.
			2 1/2	Drill 7298' - 7329'.
			1/2	Service rig; check BOP.
			14 ---	Drill 7329' - 7475'.
35	8-23	7475'	4 ---	Drill 7475' - 7506'.
			1/2	Pump pill. Drop survey: 7462' 2 1/4 deg.
			4 ---	Trip out; SLM.
			1 ---	Change bit and shock sub. Work blind rams.
			1 1/2	Trip in bit #9 Smith F15 at 7506'.
			1/2	Service rig and crown-o-matic.
			2 1/2	Trip in.
			1/2	Wash and ream 30 ft to bottom; no fill.
			1 1/2	Drill 7506' - 7515'.
			1/2	Work on pump #2; change middle swab.
			7 1/2	Drill 7515' - 7566'.
36	8-24	7566'	7 1/2	Drill 7566' - 7620'.
			1/2	Work on pump #1; change swab.
			2 1/2	Drill 7620'- 7643'.
			1/2	Service rig.
			7 1/2	Drill 7643' - 7694'.
			1/2	Work on pump #1; change swab.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
			5 ---	Drill 7694' - 7726'.
37	8-25	7726'	6 ---	Drill 7726' - 7765'.
			1/2	Work on pump #2; change swab.
			3 ---	Drill 7765' - 7787'.
			1 ---	Work on pump #1; change valve and seat.
			1 1/2	Drill 7787' - 7796'.
			1/2	Service rig.
			7 ---	Drill 7796' - 7834'.
			1 ---	Work on pump #1; change valve and seat.
			3 1/2	Drill 7834' - 7856'.
38	8-26	7856'	8 ---	Drill 7856' - 7891'.
			1/2	Pump pill. Drop survey: 7877' 1 3/4 deg.
			3 1/2	Trip out.
			1 ---	Change bit; break survey tool; pull float.
			1/2	Service rig. Work blind rams.
			4 ---	Trip in with bit #10 Hughes ATJ11 at 7891'.
			1/2	Wash and ream 14 ft to bottom; no fill.
			6 ---	Drill 7891' - 7929'.
39	8-27	7929'	13 ---	Drill 7929' - 8014'.
			1/2	Service rig. Check BOP.
			1/2	Clean mud tank.
			4 1/2	Drill 8014' - 8046'.
			1/2	Work tight hole at 8046'.
			1 ---	Survey: 8001' 2 deg.
			4 ---	Drill 8046' - 8076'.
40	8-28	8076'	1/2	Drill 8076' - 8078'.
			1/2	Work on #2 pump rod oilers.
			8 ---	Drill 8078' - 8139'.
			1/2	Work tight hole.
			2 1/2	Drill 8139' - 8166'.
			1 ---	Tight hole.
			1/2	Drill 8166' - 8170'.
			1/2	Tight hole.
			4 ---	Drill 8170' - 8201'.
			1/2	Service rig. Check BOP.
			5 1/2	Drill 8201' - 8233'.
41	8-29	8233'	19 ---	Drill 8233' - 8338'.
			5 ---	Circulate and condition mud for logs.
42	8-30	8338'	1 1/2	Circulate and condition mud for logs.
			4 1/2	Short trip 42 stands; tight at 4686'.

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DAILY OPERATIONS

Day	Date	Depth	Time	Operation
			3 1/2	Circulate and condition. 11.3+ mud weight in--greatest gas cut was 10.5+ at 22,800 units short trip gas--11.1 out at end of circulation.
			1/2	Pump pill. Drop survey: 8286' 2 1/2 deg.
			4 1/2	Trip out. Board 8338'; SLM 8342', corrected.
			9 1/2	Rig up and log with Schlumberger. Run stacked induction-neutron-density-natural gamma logs.
43	8-31	8342'	9 1/2	Run sonic and sonic waveform logs.
			1 1/2	Trip in. Pull corrision ring.
			1 1/2	Cut and slip 79 ft of drilling line.
			1/2	Service rig. Check BOP.
			1 ---	Trip in 50 stands. Lay down 2 joints with bad shoulders.
			1/2	Break circulation.
			1 ---	Trip in.
			3 ---	Circulate and condition.
			3 1/2	Trip out.
			2 ---	Rig up lay down machine; lay down 8" drill collars.
44	9-1	8342'	13 1/2	Rig up and run 9 5/8" casing.
			4 1/2	Circulate casing.
			2 1/2	Rig up Dowell. Circulate and cement.
			3 ---	Nipple down. Set slips. Cut off. Nipple up B section. Test.
			1/2	Nipple up.
45	9-2	8342'	3 1/2	Nipple up BOP.
			3 1/2	Test BOP.
			1 ---	Rig down tester. Install wear ring.
			10 ---	Pick up, strap, caliper, and inspect BHA.
			1/2	Install rotating head.
			2 ---	Drill out plug, cement, float, and shoe.
			3 1/2	Drill 8342' - 8372'.
46	9-3	8372'	11 ---	Drill 8372' - 8496'.
			1/2	Service rig. Check BOP.
			2 1/2	Drill 8496' - 8527'.
			1 ---	Survey: 8484' 1 1/2 deg.
			9 ---	Drill 8527' - 8676'.
47	9-4	8676'	12 ---	Drill 8676' - 8836'.
			1/2	Service rig. Check BOP.
			7 ---	Drill 8836' - 8882'.
			1/2	Pump pill. Drop survey: misrun.

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DAILY OPERATIONS

			4	---	Trip out for bit.
48	9-5	8882'	4	1/2	Trip in new bit #12 Smith F3 at 8882'.
				1/2	Wash and ream 50 ft to bottom.
			5	---	Drill 8882' - 8931'.
				1/2	Service rig. Check BOP.
			1	1/2	Drill 8931' - 8960'.
			2	---	Circulate samples of Dakota show at 8960'.
			10	---	Drill 8960' - 9041'.
49	9-6	9041'	12	---	Drill 9041' - 9115'.
				1/2	Survey: 9071' 2 1/2 deg.
				1/2	Service rig.
			7	---	Drill 9115' - 9155'.
			4	---	Pump pill. Trip out.
50	9-7	9155'	4	---	Trip in new bit #13 Smith F3 at 9155'. Change jars.
			1	---	Slip and cut 96 ft of drilling line.
				1/2	Trip in 9 stands.
				1/2	Wash and ream 50 ft to bottom; no fill.
			2	---	Drill 9155' - 9169'.
				1/2	Service rig.
			12	1/2	Drill 9169' - 9301'.
				1/2	Change mud pressure gauge.
			2	1/2	Drill 9301' - 9324'.
51	9-8	9324'	8	1/2	Drill 9324' - 9392'.
				1/2	Service rig.
			3	---	Drill 9392' - 9423'.
				1/2	Work on #1 oiler compound.
			2	---	Drill 9423' - 9442'.
			1	---	Pump pill. Drop survey: 9412' 2 3/4 deg.
			3	1/2	Trip out.
			3	1/2	Trip in new bit #14 Hughes ATJ44 at 9442'.
				1/2	Wash and ream 60 ft to bottom; no fill.
			1	---	Drill 9442' - 9448'.
52	9-9	9448'	12	---	Drill 9448' - 9549'.
				1/2	Service rig.
			11	1/2	Drill 9549' - 9704'.
53	9-10	9704'	9	---	Drill 9704' - 9856'.
				1/2	Pump pill. Drop survey: 9817' 3 deg.
			3	---	Trip out.
			3	1/2	Trip in new bit #15 Reed EHP61A. Wash 6 ft to bottom.
			8	---	Drill 9856' - 10027'.

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DAILY OPERATIONS

54	9-11	10027'	8 1/2	Drill 10027' - 10358'.
			1/2	Survey: 10314' 2 3/4 deg.
			1/2	Service rig. Check BOP.
			14 1/2	Drill 10358' - 10503'.
55	9-12	10503'	7 ---	Drill 10503' - 10549'.
			1/2	Pump pill. Drop survey: 10532' 2 3/4 deg.
			4 ---	Trip out. Work blind rams.
			2 1/2	Trip in new bit #16 Hughes ATJ55R at 10549'.
			1 ---	Cut drilling line.
			1 ---	Trip in. Install rotating head rubber.
			1/2	Wash and ream 17 ft to bottom.
			7 1/2	Drill 10549' - 10602'.
56	9-13	10602'	11 ---	Drill 10602' - 10699'.
			1/2	Service rig. Check BOP.
			12 1/2	Drill 10699' - 10764'.
57	9-14	10764'	5 1/2	Drill 10764' - 10811'.
			2 ---	Repair rotary chain and torque line.
			1/2	Service rig. Check BOP.
			2 ---	Repair rotary chain.
			14 ---	Drill 10811' - 10936'.
58	9-15	10936'	9 1/2	Drill 10936' - 11013'.
			1/2	Service rig. Check BOP.
			14 ---	Drill 11013' - 11106'.
59	9-16	11106'	9 ---	Drill 11106' - 11168'.
			1/2	Service rig.
			6 1/2	Drill 11168' - 11217'.
			1 1/2	Circulate samples.
			1 ---	Drill 11217' - 11222'.
			1 1/2	Circulate samples.
			1/2	Pump pill. Drop survey: misrun.
			3 1/2	Trip out.
60	9-17	11222'	3 ---	Trip out. Board 11222', SLM 11222.45'.
			5 1/2	Make up core barrel. Trip in for core #1.
			1 ---	Pick up pup joint and wash 20 ft to bottom, no fill.
			11 1/2	Core #1: 11222' - 11253'
			2 ---	Make connection; pull 45,000 lbs over string weight to break core.
			1 ---	Core #1: 11253' - 11256'.
61	9-18	11256'	8 1/2	Core #1: 11256' - 11282'.
			1/2	Mix and pump pill.

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DAILY OPERATIONS

			4 1/2	Trip out with core #1. Recovered 60 ft sand.
			2 1/2	Lay down core.
			1/2	Service rig. Check BOP.
			1 1/2	Wait on orders.
			1 ---	Make up core barrel and jars.
			3 ---	Trip in for core #2.
			1/2	Pick up 3 joints drill pipe and pup joint. Wash 15 ft to bottom, no fill.
			1 1/2	Core #2: 11282' - 11288'.
62	9-19	11288'	4 1/2	Core #2" 11288' - 11307'.
			1/2	Pressured up, stopped coring. Pump pill.
			4 1/2	Trip out with core #2. Core bit grooved.
			3 ---	Lay down core #2. Recovered 25.3 ft.
			1/2	Service rig. Check BOP.
			1 ---	Examine core; wait on orders.
			3 ---	Stand core barrel in derrick. Pick up DST tools.
			3 ---	Trip in BHA and 78 stands.
			1 ---	Cut drilling line.
			1 ---	Trip in.
			1/2	Pick up 3 joints drill pipe. Make up test manifold.
			1 1/2	Run DST #1 with Schlumberger; 15-30-120-240 min.
63	9-20	11307'	5 1/2	DST #1.
			1/2	Rig down test mainfold. Lay down 3 joints.
			5 1/2	Trip out with test tool. Recovered 240 ft mud. Left 9" X 19" piece of packer rubber in hole.
			1 1/2	Break and load out test tool.
			1/2	Service rig. Check BOP.
			4 ---	Trip in with rerun bit #16 Hughes ATJ55R.
			1/2	Wash and ream 90 ft to bottom; no fill.
			2 1/2	Wash and ream on packer rubber.
			1/2	Drill 11307' - 11317'. Drill on and beside rubber.
			2 1/2	Circulate gas.
			1/2	Drill 11317' - 11323'. Drill packer rubber.
64	9-21	11323'	3 ---	Drill 11323' - 11337'. Drill packer rubber.
			5 ---	Pump pill. Trip out. Board 11337'; SLM 11335.66'; made correction.
			5 1/2	Trip in with core barrel.
			1 1/2	Wash and ream 30 ft to bottom; 5 ft of fill. Mud splashed above shaker riser box. Circulate 13,600 units trip gas through gas buster--4 to 6 ft orange flare.
			1 ---	Core #3: 11335' - 11344'. Pressured up.
			5 1/2	Pump pill. Trip out. Core bit worn flat.

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DAILY OPERATIONS

				1/2	Lay down core. Recovered 7.5 ft sandstone.
			2	---	Break and lay down core barrel.
65	9-22	11344'	3	---	Trip in rerun bit #16 Hughes ATJ55R at 11344'.
			1	---	Cut drilling line.
			1	---	Trip in.
				1/2	Wash 40 ft to bottom.
			11	1/2	Drill 11344' - 11479'.
				1/2	Service rig.
			6	1/2	Drill 11479' - 11537'.
66	9-23	11541'		1/2	Drill 11537' - 11541'.
				1/2	Pump pill. Drop survey: 11497' 2 3/4 deg.
			4	1/2	Trip out.
			4	---	Trip in new bit #19 Hughes J55 (conical inserts) at 11541'.
				1/2	Wash and ream 30 ft to bottom; no fill.
			3	1/2	Drill 11541' - 11572'.
				1/2	Service rig. Check BOP.
			10	---	Drill 11572' - 11655'.
67	9-24	11655'	5	---	Drill 11655' - 11700'.
			3	1/2	Circulate for logs.
				1/2	Pump pill. Drop survey: 11685' 2 1/4 deg.
			4	---	Trip out for logs.
			11	---	Rig up Schlumberger. Run cement evaluation log; interference from gas in mud. Run second cement evaluation tool, still questionable data on site.
68	9-25	11700'	22	---	Run second cement evaluation tool. Run stacked induction-neutron-density-microlog. Caliper would not close after logging high resolution pass in Weber. Run sonic log. Rerun stacked induction-neutron-density-microlog over section missed on first run.
			2	---	Trip in.
69	9-26	11700'	1	---	Trip in.
				1/2	Fill pipe. Wash 17 ft to bottom; no fill.
			3	---	Circulate. Maximum 16000 units before running mud through gas buster--25 ft flare.
				1/2	Mix and pump pill.
					Trip out to run 5 1/2" 20# liner to TD.

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MUD RECORD

Cl	Ca	Sd	Sol	Oil	H2O	Deg	NO3
300	80	---	n/a	n/a	n/a	n/a	
400	60	1/8	4.5	n/a	95.5	n/a	
400	40	1/8	4.0	n/a	96.0	n/a	
300	40	1/4	4.0	n/a	96.0	78	
500	40	1/4	5.0	n/a	95.0	102	
500	20	1/2	17.5	n/a	82.5	101	
500	20	1 1/8	20.0	n/a	80.0	92	
450	40	1 ---	17.5	n/a	82.5	101	
500	40	1 ---	18.0	n/a	82.0	106	
550	40	1/4	17.2	n/a	82.8	111	
500	40	1/4	18.0	n/a	82.0	103	
550	40	1/4	16.8	n/a	83.2	100	
650	40	3/4	18.5	n/a	81.5	105	
600	40	1/2	17.5	n/a	82.5	113	
500	40	1/2	17.2	n/a	82.8	116	
600	40	1/2	16.5	n/a	83.5	109	
600	40	1/2	16.5	n/a	83.5	114	
550	40	1/4	16.5	n/a	83.5	110	
650	40	1/3	17.0	n/a	83.0	116	
550	40	1/4	16.2	n/a	83.8	116	
600	40	1/4	16.0	n/a	84.0	115	
600	40	1/4	16.8	n/a	83.2	116	

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MUD RECORD

Cl	Ca	Sd	Sol	Oil	H2O	Deg	NO3
600	40	1/4	16.2	n/a	83.8	117	
650	40	1/4	16.3	n/a	83.7	117	
600	40	1/4	16.4	n/a	83.6	118	
550	40	1/4	16.4	n/a	82.6	119	
650	40	1/4	17.6	n/a	82.4	119	
600	40	1/2	17.4	n/a	82.6	118	
650	40	1/4	16.4	n/a	83.6	n/a	
650	40	1/8	16.4	n/a	83.6	117	
650	40	1/4	16.7	n/a	83.3	n/a	
650	40	1/4	16.8	n/a	83.2	n/a	
650	40	1/4	17.0	n/a	83.0	n/a	
650	40	1/4	17.4	n/a	82.6	n/a	
650	n/a	1/4	17.8	n/a	82.2	n/a	
700	40	1/4	16.8	n/a	83.2	n/a	
650	40	1/4	17.4	n/a	82.6	n/a	
700	40	1/4	17.0	n/a	83.0	142	
650	40	1/8	18.0	n/a	82.0	140	
650	60	Tr	17.2	n/a	82.8	140	
n/a	n/a	1/4	18.5	n/a	81.5	143	
600	80	1/4	21.5	n/a	78.5	144	
700	80	1/4	20.0	n/a	80.0	n/a	

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MUD RECORD

Cl	Ca	Sd	Sol	Oil	H2O	Deg	NO3
600	80	1/8	13.0	n/a	87.0	117	
600	80	Tr	10.0	n/a	90.0	126	
600	60	Tr	9.0	n/a	91.0	119	
650	80	Tr	9.0	n/a	91.0	134	
600	80	Tr	8.4	n/a	91.6	138	
600	120	1/4	7.8	n/a	92.2	138	
600	120	Tr	7.5	n/a	92.5	132	
600	100	1/8	7.4	n/a	92.6	131	
600	100	1/4	7.7	n/a	92.3	130	
650	60	1/8	6.5	n/a	93.5	129	
600	60	1/8	6.3	n/a	93.7	128	
600	60	Tr	5.2	n/a	94.8	128	
700	440	1/4	6.6	n/a	93.4	146	
650	200	1/4	6.0	n/a	94.0	137	79
650	200	1/8	7.0	n/a	93.0	139	48
700	180	Tr	7.0	n/a	93.0	133	48
675	165	Tr	7.0	n/a	93.0	n/a	110
600	180	Tr	7.0	n/a	93.0	97	149
500	180	Tr	7.0	n/a	93.0	94	120
500	140	Tr	7.0	n/a	93.0	n/a	110
500	120	Tr	7.7	n/a	92.3	114	100
550	120	Tr	7.7	n/a	92.3	n/a	100

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BIT RECORD

Bit #	Size	Make	Type	Depth Out	Ft Cut	Hours	Ft/Hr
1	17 1/2	Smith	SDT	790	694	34 ---	20.4
2	12 1/4	Hughes	GT1	2384	1594	41 ---	38.9
3	12 1/4	Smith	F1	3553	1169	68 ---	17.2
4	12 1/4	Reed	HP51A	4418	865	59 1/2	14.5
5	12 1/4	Smith	F15	5370	952	118 1/2	8
6	12 1/4	Hughes	GT09	6263	893	100 ---	8.9
7	12 1/4	Reed	HP43A	6749	486	77 ---	6.3
8	12 1/4	Hughes	GT09	7506	757	75 ---	10.1
9	12 1/4	Smith	F15	7891	385	60 1/2	6.4
10	12 1/4	HTC	ATJ11	8342	451	67 1/2	6.7
11	8 1/2	Reed	HP43A	8882	540	45	12
12	8 1/2	Smith	F3	9155	273	35 1/2	7.7
13	8 1/2	Reed	HP53A	9442	287	30 1/2	9.4
14	8 1/2	Hughes	ATJ44	9856	414	33 1/2	12.4
15	8 1/2	Reed	EPH61A	10549	693	38 ---	18.2
16	8 1/2	Hughes	ATJ55R	11222	673	90 1/2	7.4
17	8 1/2	B-Hughes	C23	11282	60	21 ---	2.9
17RR	8 1/2	B-Hughes	C23	11307	25	6 ---	4.2
16RR	8 1/2	Hughes	ATJ55R	11335	28	4 ---	7.0
18	8 1/2	B-Hughes	C23	11344	9	1 ---	9.0
16RR	8 1/2	Hughes	ATJ55R	11541	197	18 1/2	10.7
19	8 1/2	Hughes	J55	11700	159	18 1/2	8.6

Bit #	Weight	RPM	Pump Pres.	Dull Code & Comments
1	25-30K	120-150	1550	4 4 N A F 4 TD
2	25-40K	130-150	1500	4 4 WT A E I NO -
3	35-40K	118-140	1600	2 2 NO - E I - TW
4	40K	120	1300	3 4 WT A F 9 TQ
5	40-55K	110	1500	4 6 FC A E 2 BT TQ
6	55K	80	1525	4 5 WT A E I PR HR
7	55K	80	1550	2 3 CI F 2 PR TQ
8	55K	80	1575	2 3 NO - F I NO TQ PR
9	55K	80	1575	2 2 NO - E I PR
10	55K	80	1600	2 2 NO E I TD
11	35K	70-80	1725	8 8 BT A E 4 WT PR 95% BT
12	40-45K	70-80	1800	5 7 FC A E 1 BT PR 20% BT
13	40-45K	70	2000	6 7 WT A E 1 BT PR All middle BT
14	40-45K	70	2000	6 7 FC A E I BT PR
15	30-45K	60-70	1775-2000	7 7 FC A E 2 TR PR
16	45K	60-70	1550-2000	4 4 WT A E I NO CP
17	14-30K	55-56	1300-1375	n/a Core #1
17RR	35K	57	1325	RO Core #2
16RR	30-35K	60	1150	n/a Packer rubber in hole
18	18-25K	60	800-1500	RO Core #3
16RR	35-45K	60	1150-1800	6 7 WT A E 1 TR PR
19	45K	60	1200-1850	2 2 BT NG E I NO TD 3 BT

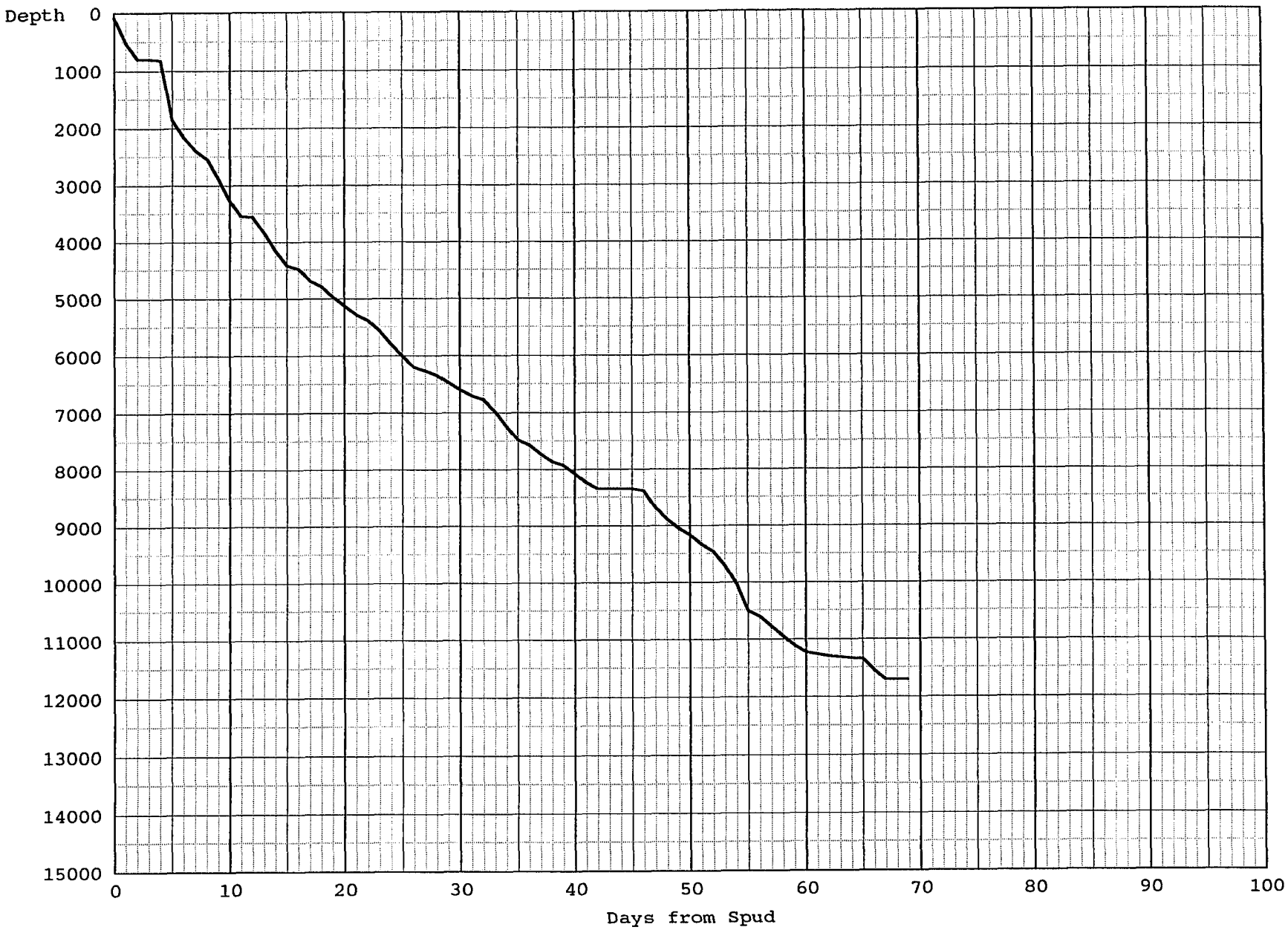
Anschutz Exploration Corporation
Texas Creek #14-22

DEVIATIONS

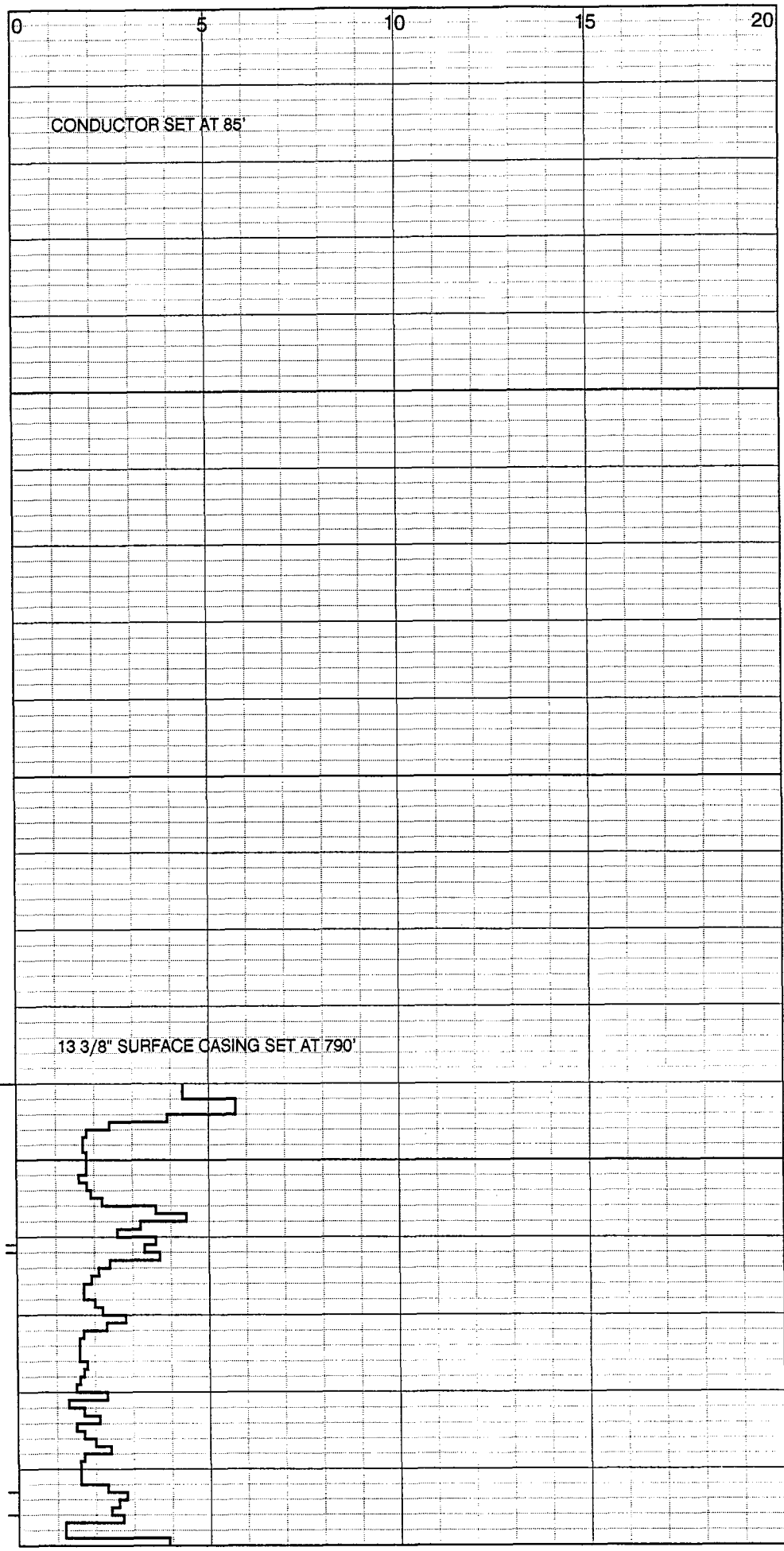
Depth	Degree	Direction	Depth	Degree	Direction
125	3/4				
243	3/4				
359	1 ---				
473	1 ---				
617	3/4				
722	1 ---				
896	3/4				
1083	1/4				
1337	1/2				
1589	1/4				
1872	1/4				
2342	1 1/4				
2624	3/4				
2969	3/4				
3286	1/4				
3792	1 ---				
4170	1 ---				
4509	1 ---				
4818	1 1/4				
5144	1 3/4				
5331	1 3/4				
5675	1 1/4				
6048	1 1/2				
6219	2 ---				
6604	1 3/4				
6727	2 ---				
7254	2 ---				
7462	2 1/4				
7877	1 3/4				
8001	2 ---				
8286	2 1/2				
8484	1 1/2				
9071	2 1/2				
9412	2 3/4				
9817	3 ---				
10314	2 3/4				
10532	2 3/4				
11497	2 3/4				
11685	2 1/4				

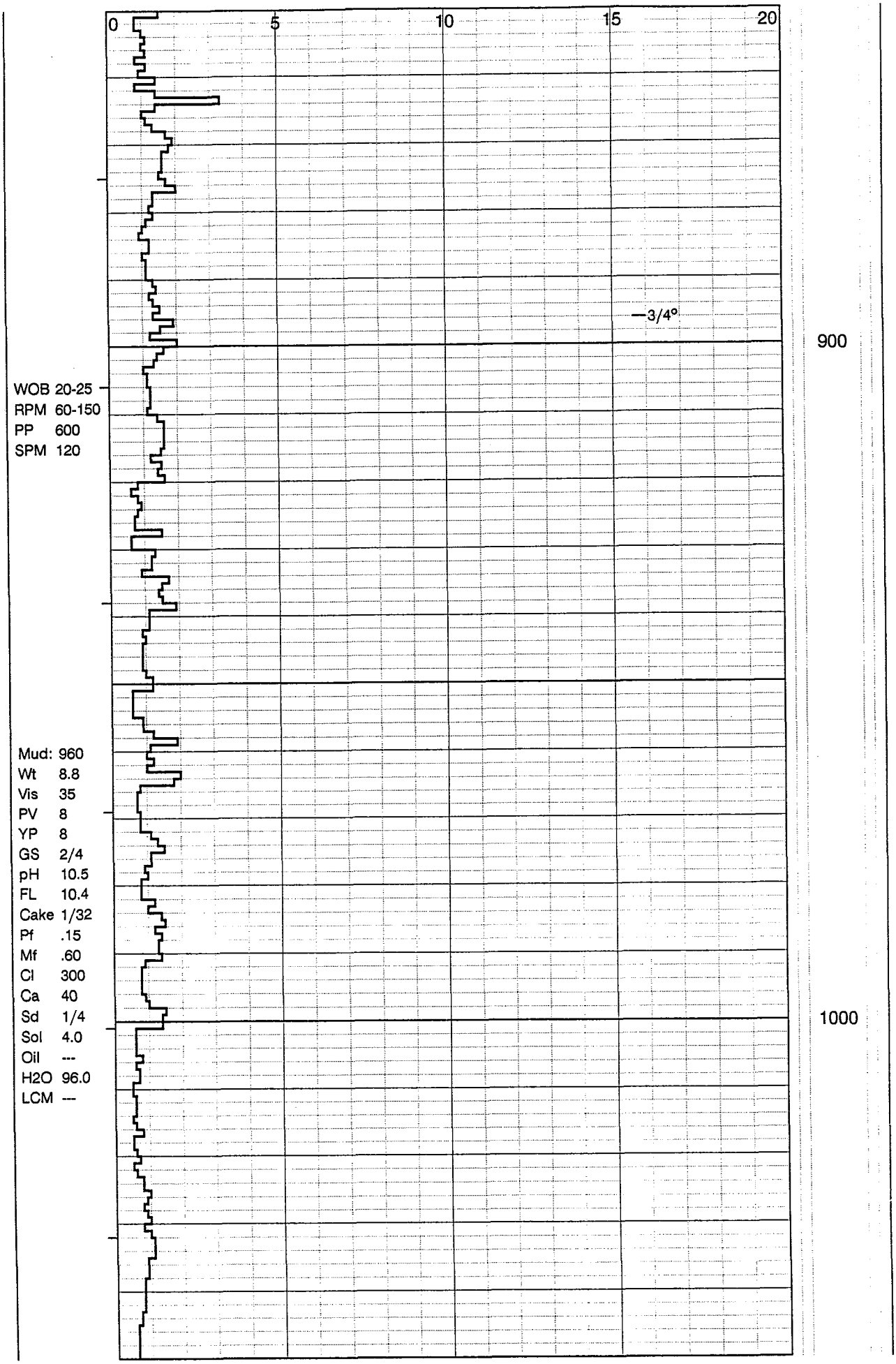
Anschutz Exploration Corporation
Texas Creek #14-22

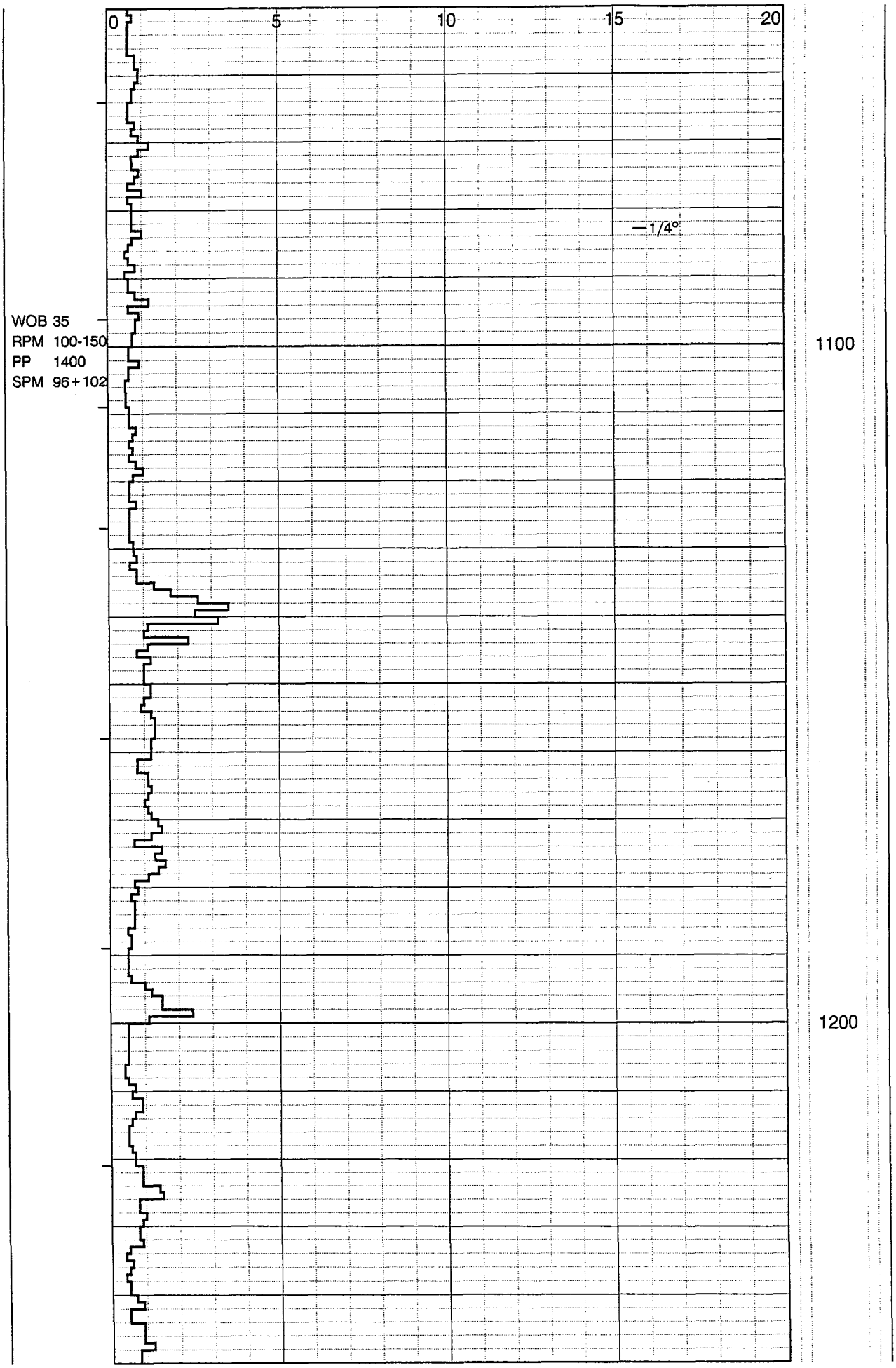
DRILLING CURVE

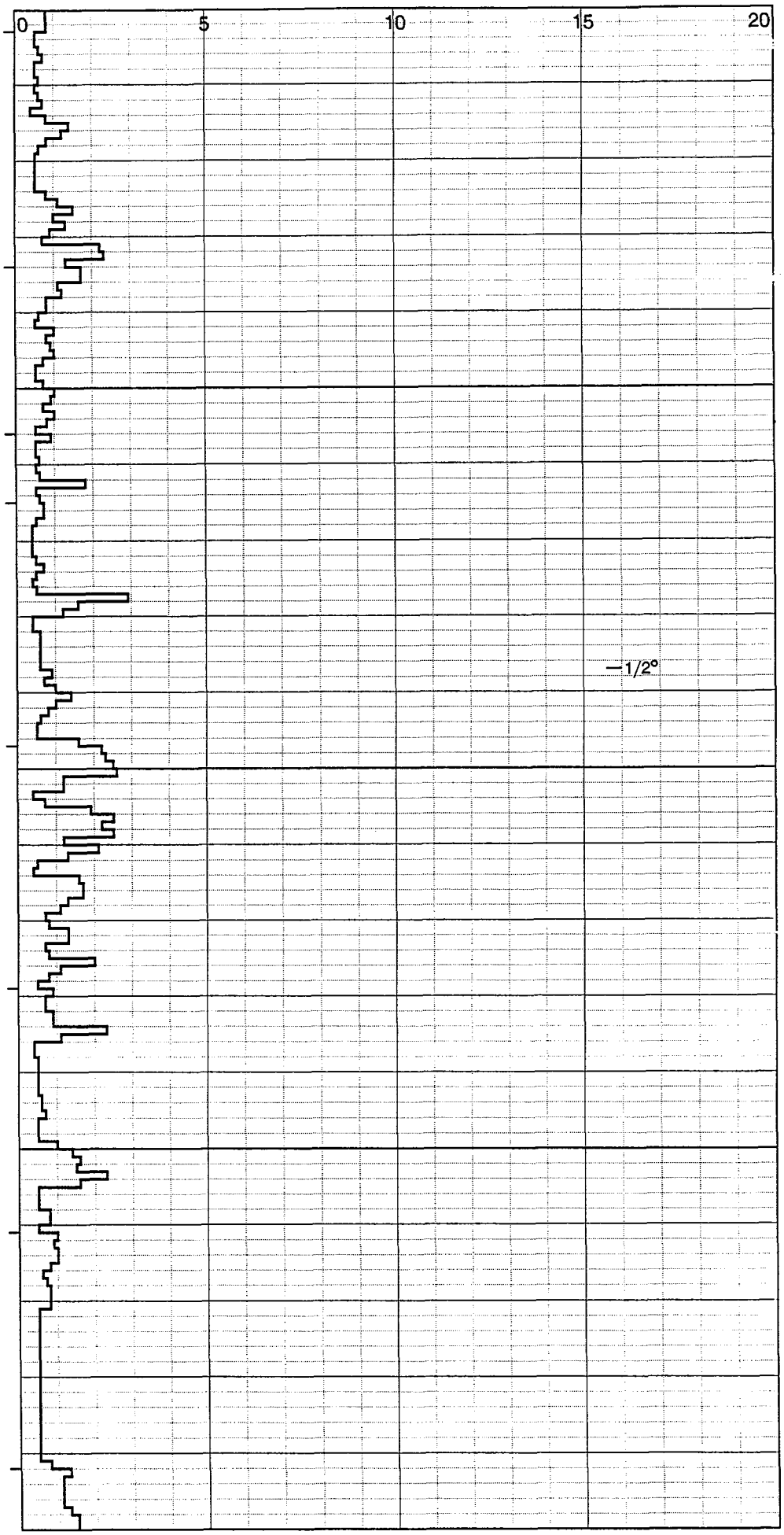


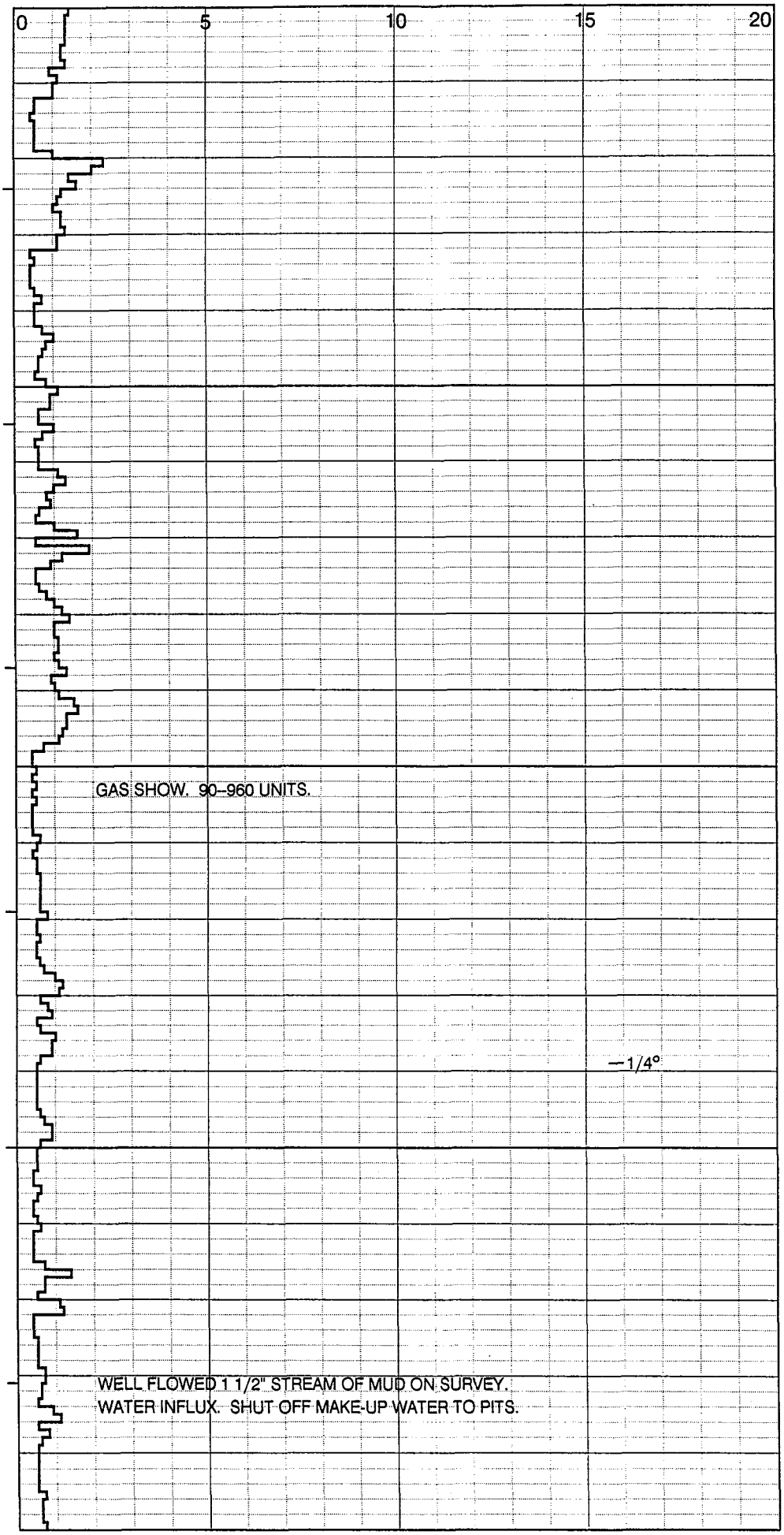
Green River

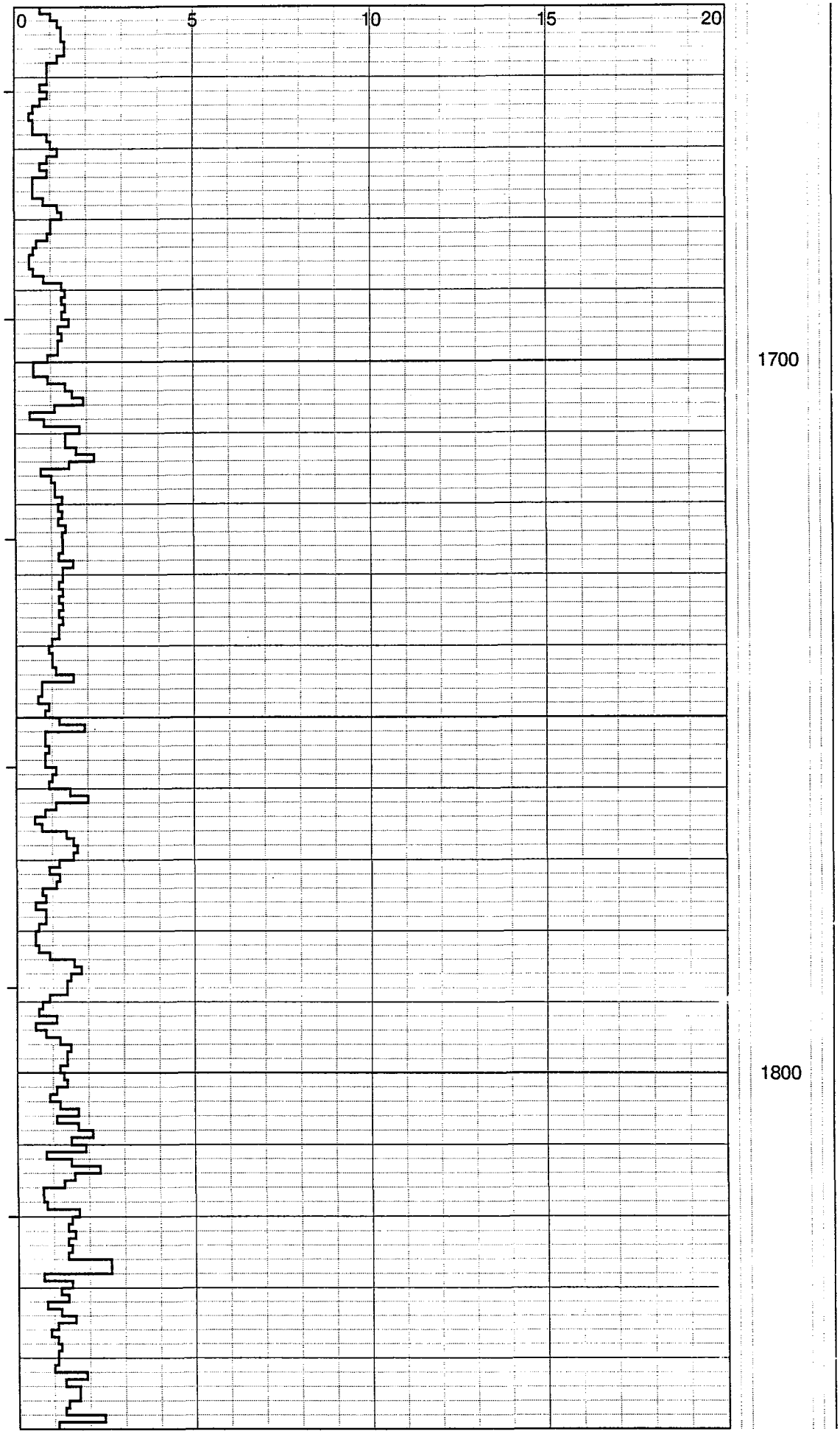

0
5
10
15
20
CONDUCTOR SET AT 85'
700
13 3/8" SURFACE CASING SET AT 790'
Bit 2
Hughes
GT-1
WOB 20-25
RPM 60-90
PP 550
SPM 120
800

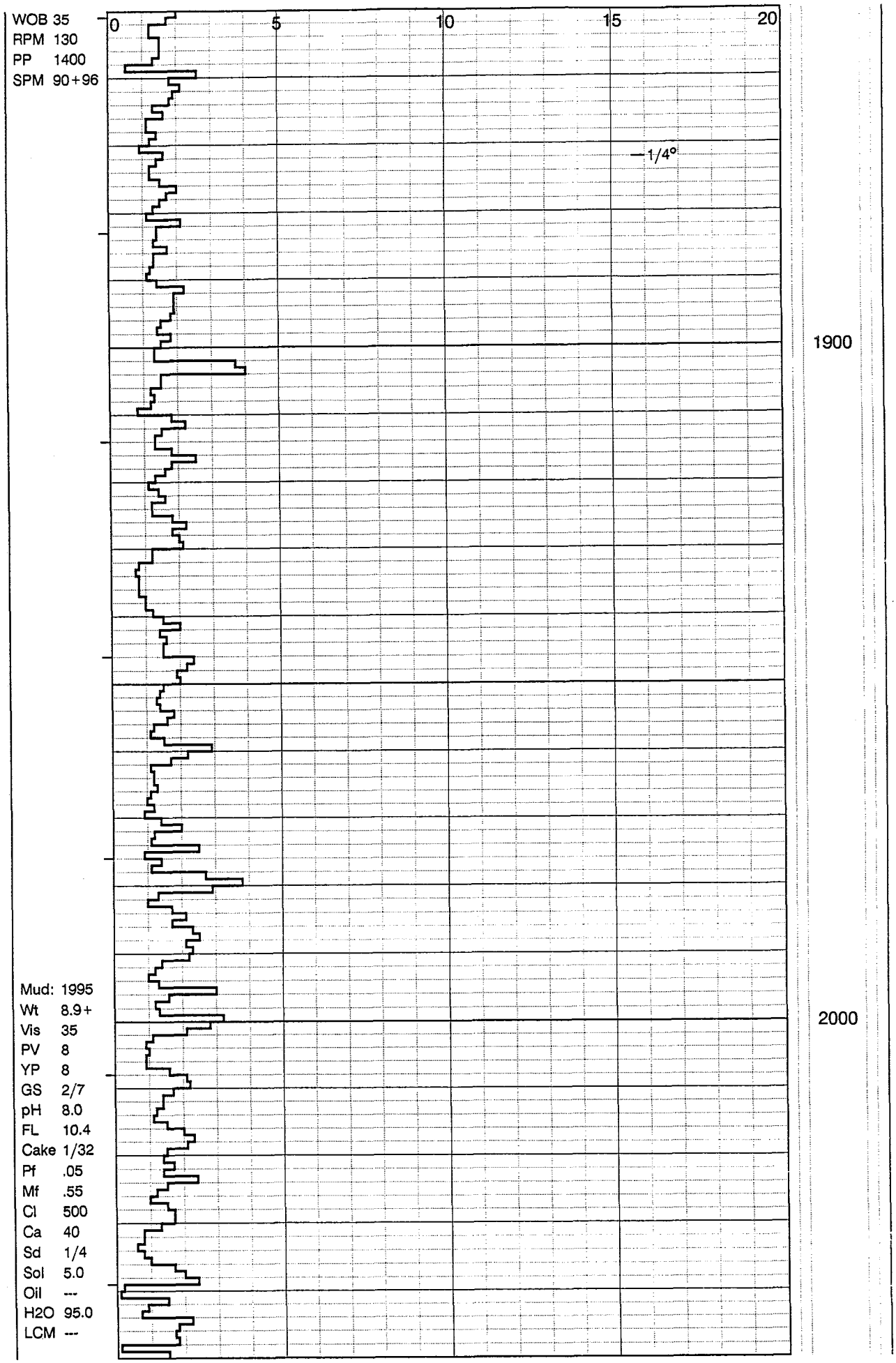

0
5
10
15
20
—3/4°
900
1000
WOB 20-25
RPM 60-150
PP 600
SPM 120
Mud: 960
Wt 8.8
Vis 35
PV 8
YP 8
GS 2/4
pH 10.5
FL 10.4
Cake 1/32
Pf .15
Mf .60
Cl 300
Ca 40
Sd 1/4
Sol 4.0
Oil ---
H2O 96.0
LCM ---

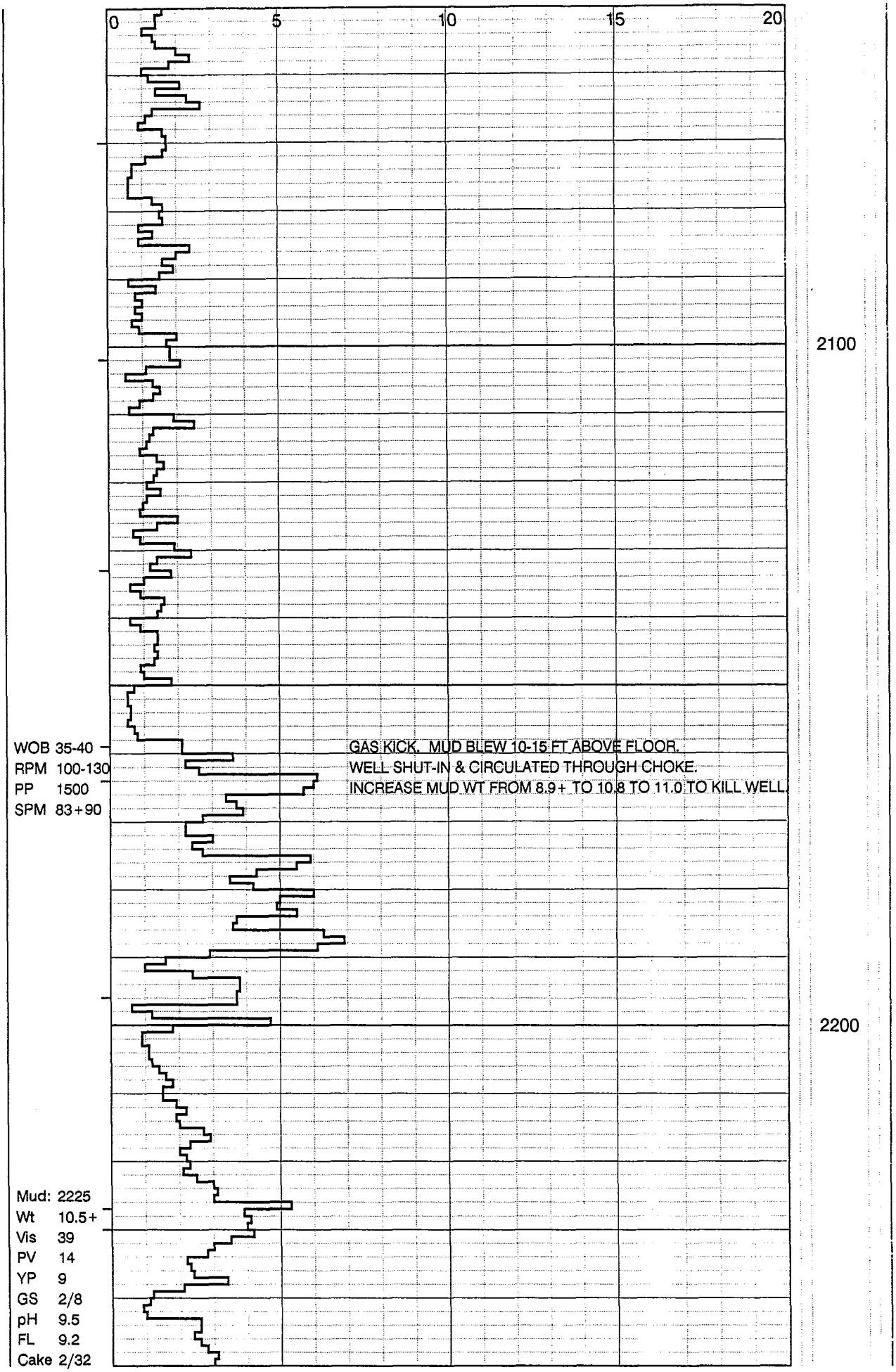

0
5
10
15
20
—1/4°
WOB 35
RPM 100-150
PP 1400
SPM 96+102
1100
1200

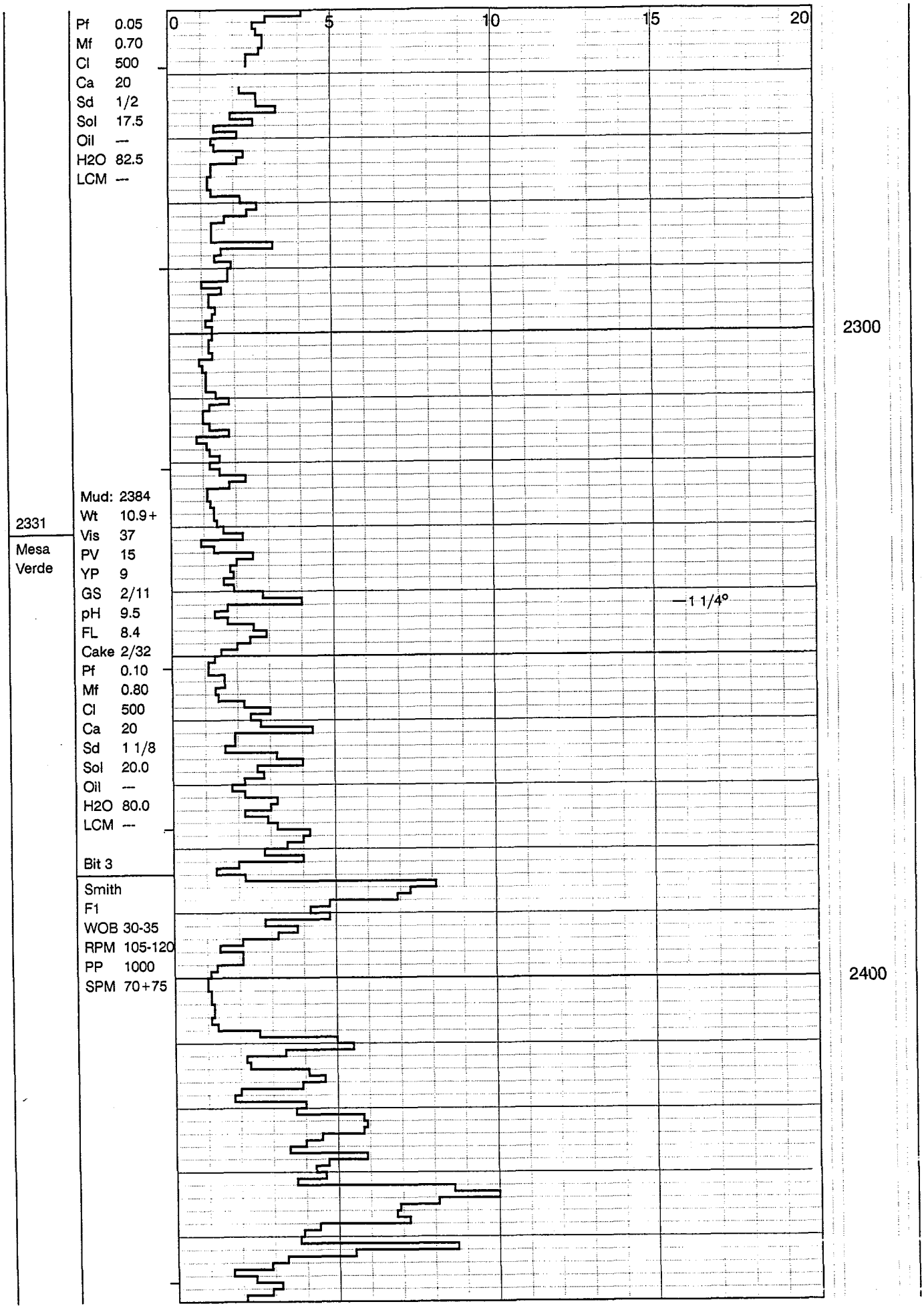

0
5
10
15
20
1300
—1/2°
1400
1406
Wasatch

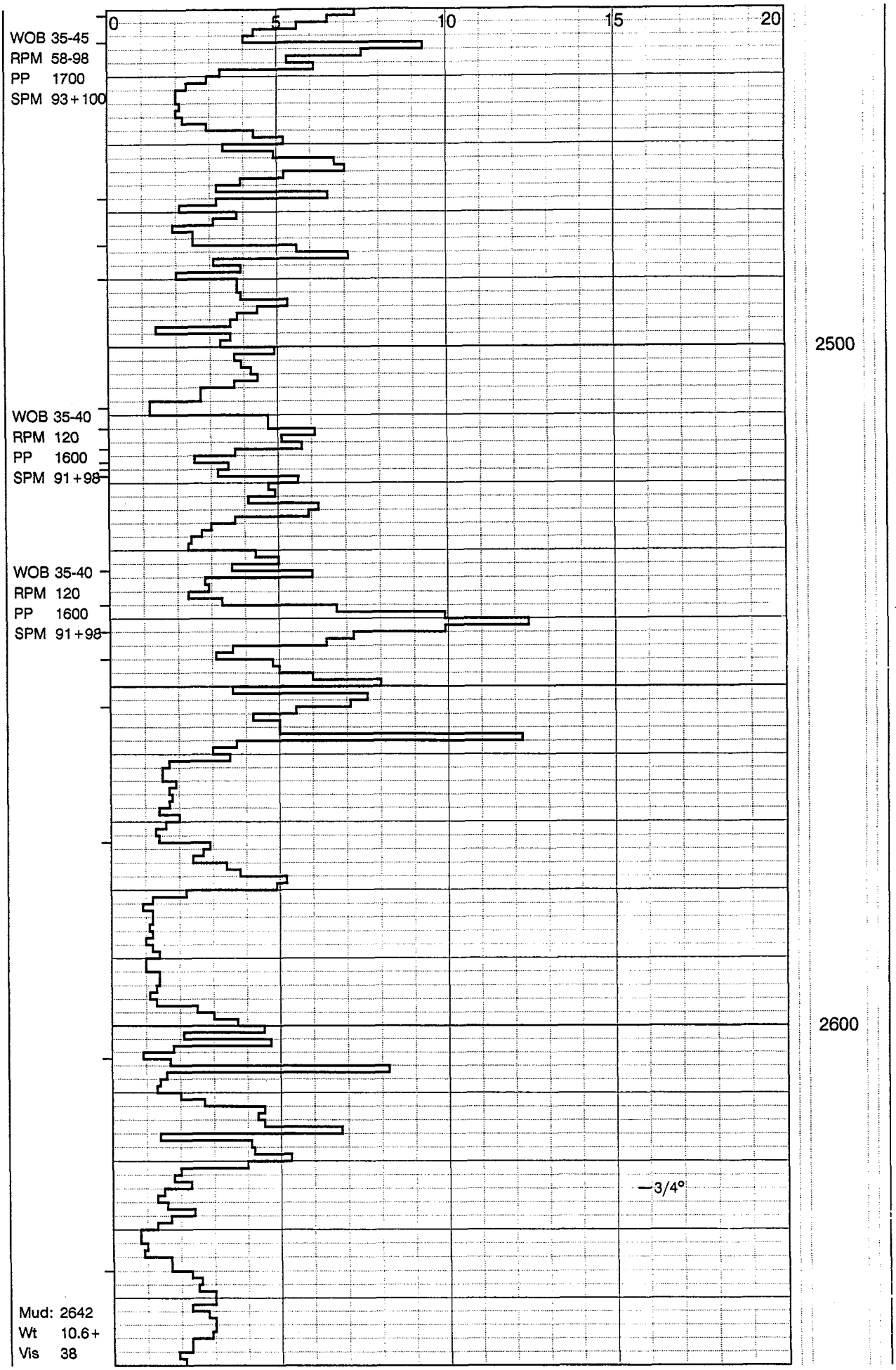

0
5
10
15
20
1500
GAS SHOW. 90–960 UNITS.
—1/4°
1600
WELL FLOWED 1 1/2" STREAM OF MUD ON SURVEY.
WATER INFLUX. SHUT OFF MAKE-UP WATER TO PITS.


0
5
10
15
20
1700
1800

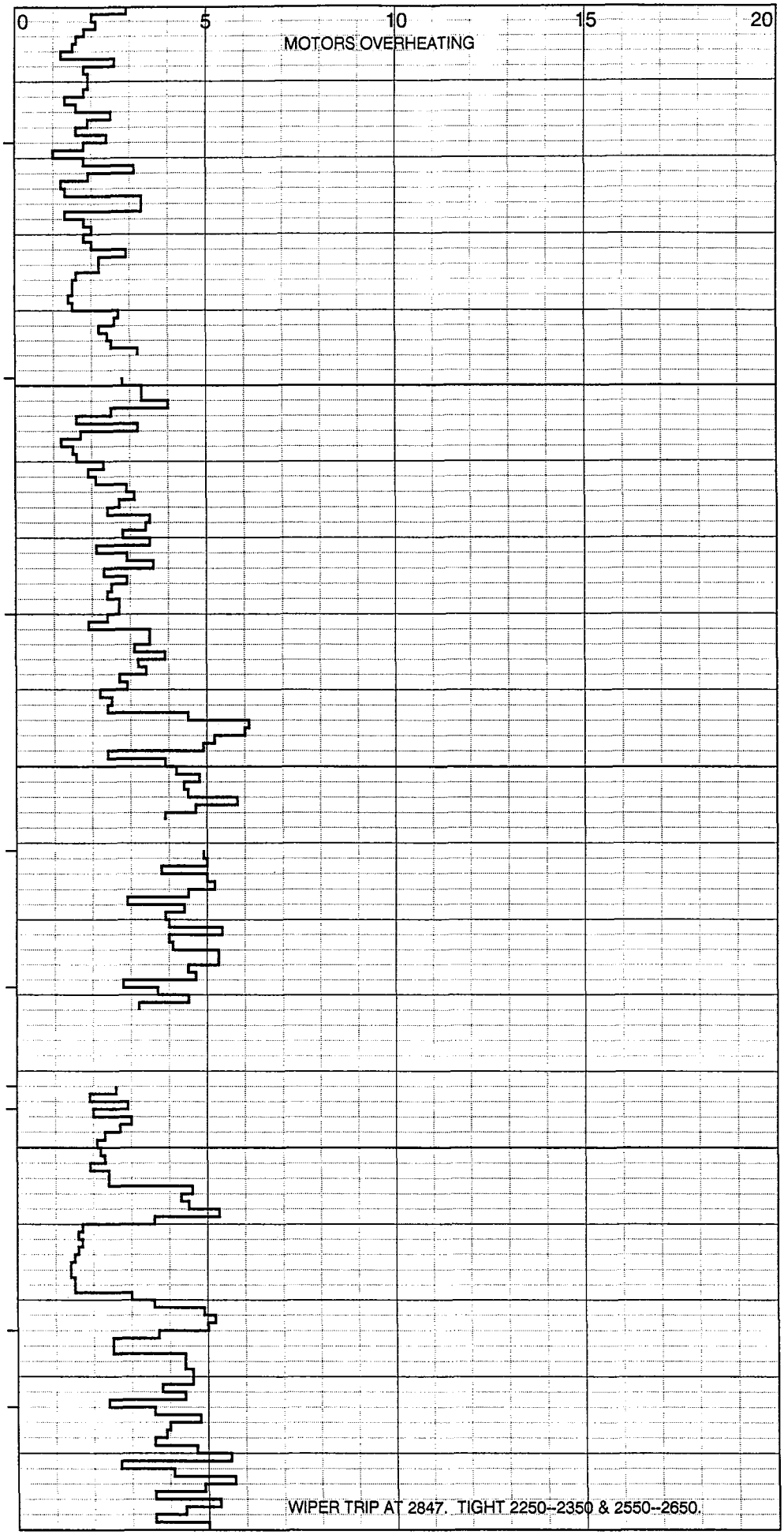

WOB 35
RPM 130
PP 1400
SPM 90+96
0
5
10
15
20
1/4°
1900
2000
Mud: 1995
Wt 8.9+
Vis 35
PV 8
YP 8
GS 2/7
pH 8.0
FL 10.4
Cake 1/32
Pf .05
Mf .55
Cl 500
Ca 40
Sd 1/4
Sol 5.0
Oil ---
H2O 95.0
LCM ---

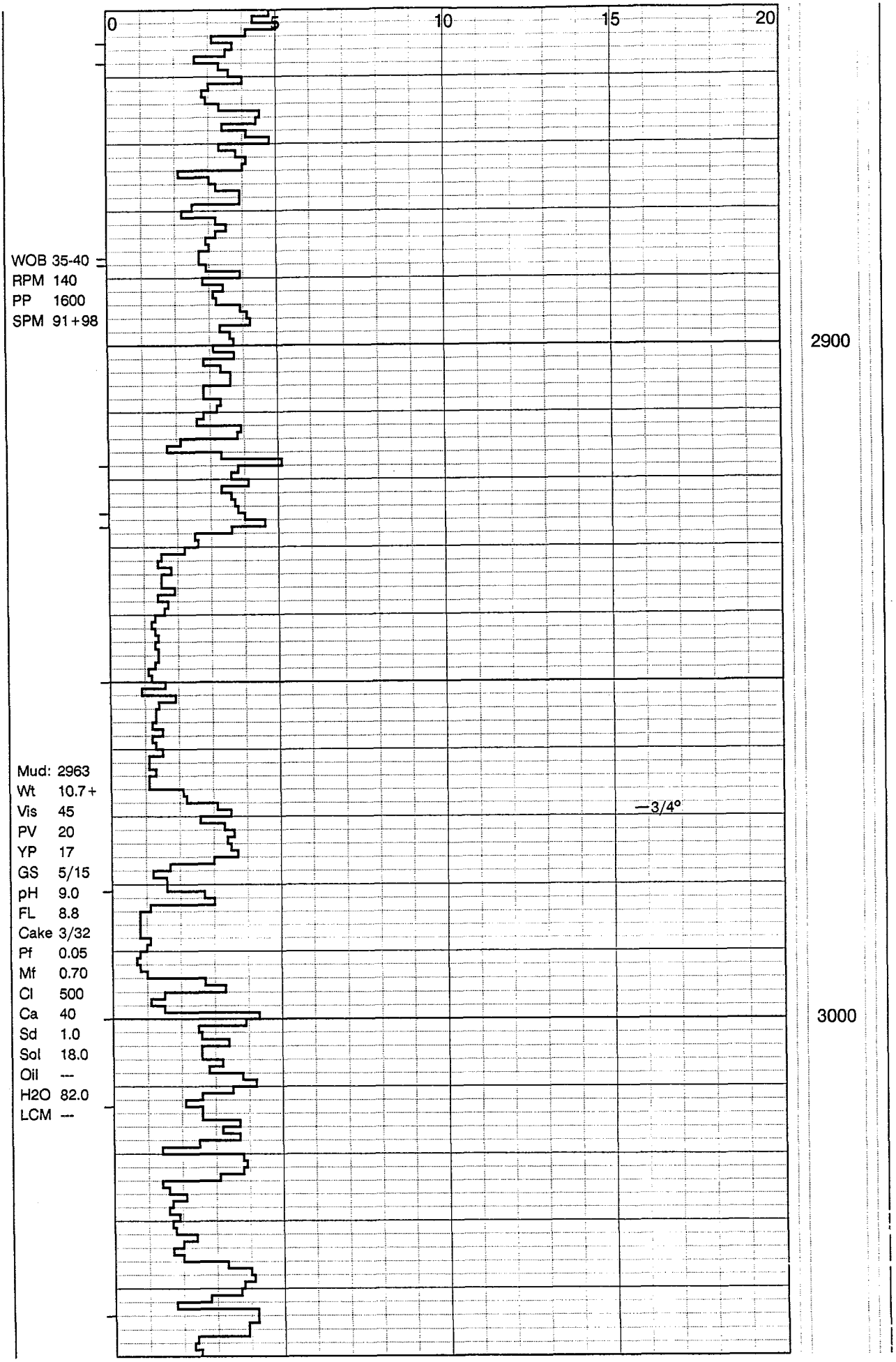

0
5
10
15
20
2100
2200
WOB 35-40
RPM 100-130
PP 1500
SPM 83+90
GAS KICK. MUD BLEW 10-15 FT ABOVE FLOOR.
WELL SHUT-IN & CIRCULATED THROUGH CHOKE.
INCREASE MUD WT FROM 8.9+ TO 10.8 TO 11.0 TO KILL WELL.
Mud: 2225
Wt 10.5+
Vis 39
PV 14
YP 9
GS 2/8
pH 9.5
FL 9.2
Cake 2/32

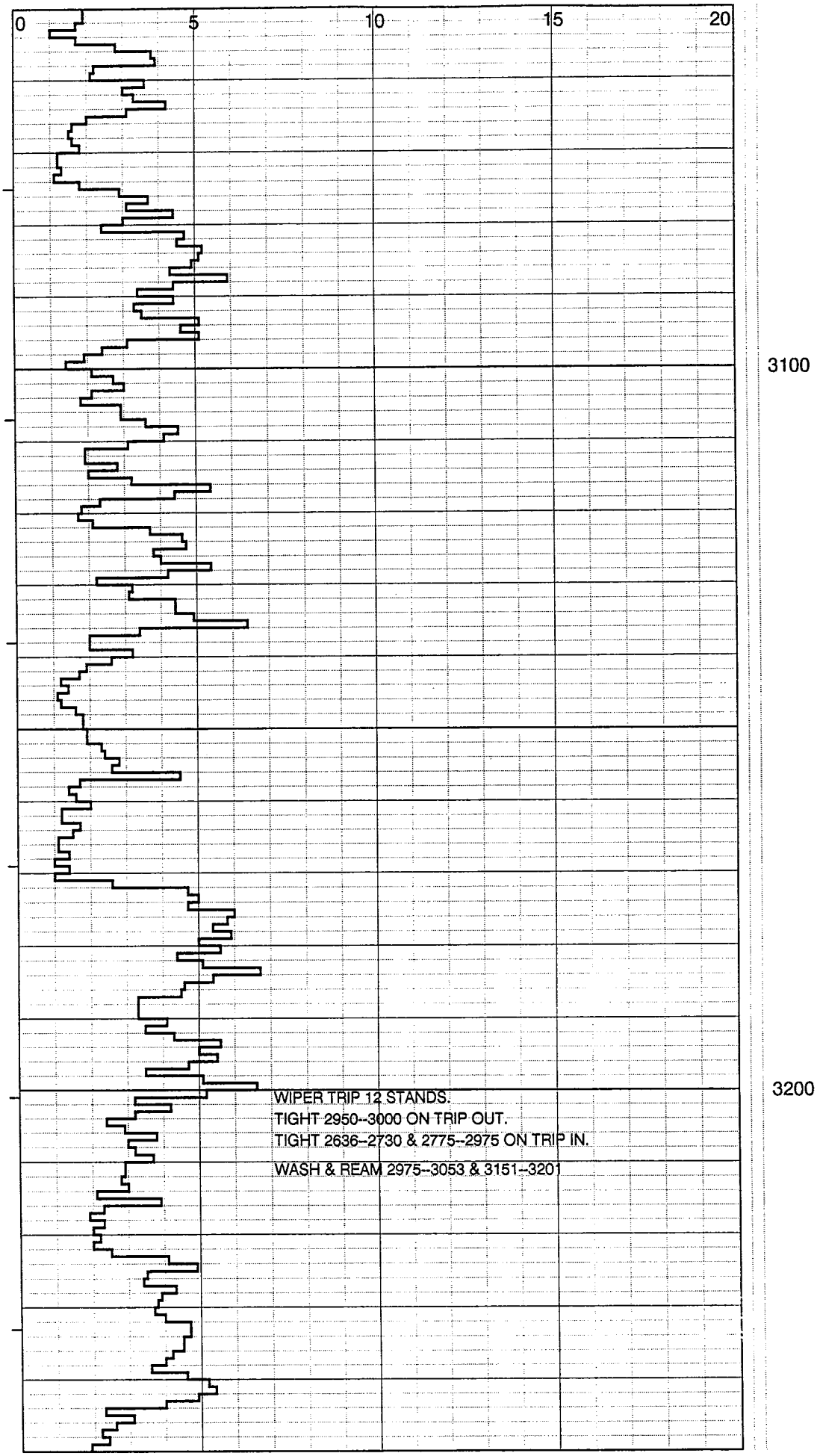

Pf 0.05
Mf 0.70
Cl 500
Ca 20
Sd 1/2
Sol 17.5
Oil —
H2O 82.5
LCM —
0
5
10
15
20
2300
Mud: 2384
Wt 10.9+
Vis 37
PV 15
YP 9
GS 2/11
pH 9.5
FL 8.4
Cake 2/32
2331
Mesa Verde
—1 1/4°
Pf 0.10
Mf 0.80
Cl 500
Ca 20
Sd 1 1/8
Sol 20.0
Oil —
H2O 80.0
LCM —
Bit 3
Smith
F1
WOB 30-35
RPM 105-120
PP 1000
SPM 70+75
2400

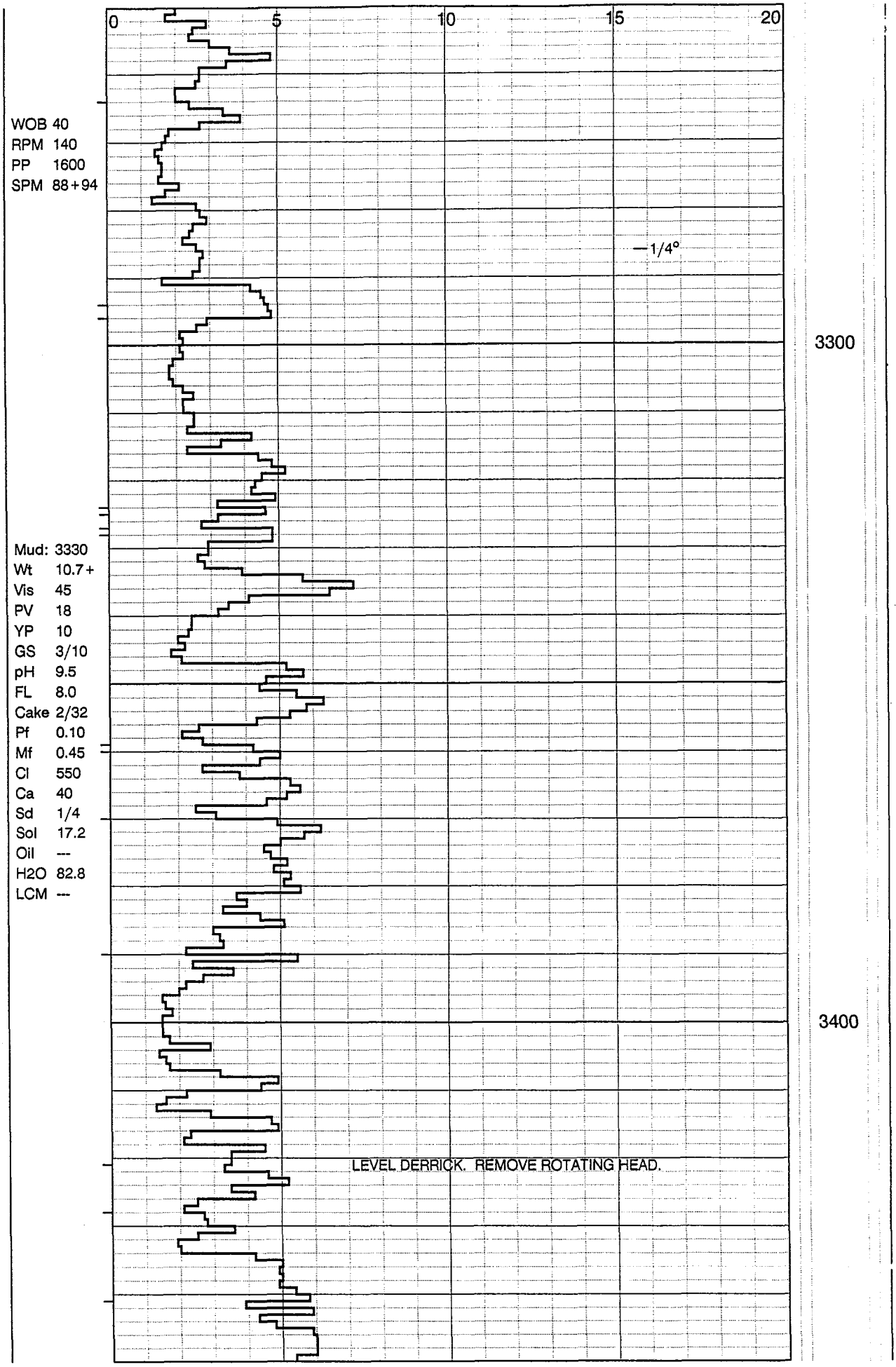

0
5
10
15
20
WOB 35-45
RPM 58-98
PP 1700
SPM 93+100
WOB 35-40
RPM 120
PP 1600
SPM 91+98
WOB 35-40
RPM 120
PP 1600
SPM 91+98
2500
2600
—3/4°
Mud: 2642
Wt 10.6+
Vis 38

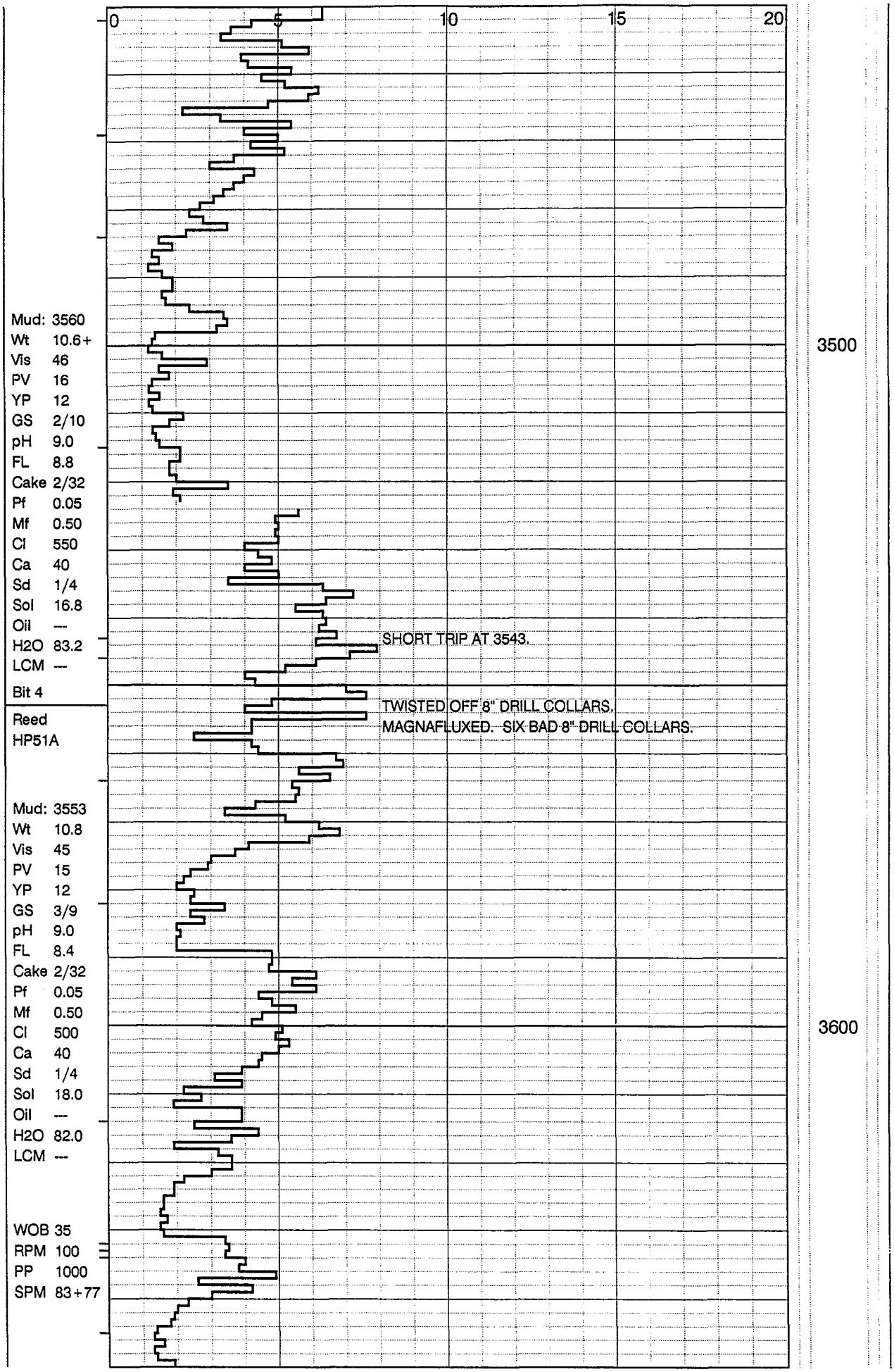
PV	14
YP	10
GS	3/12
pH	9.0
FL	10.0
Cake	2/32
Pf	0.05
Mf	0.50
Cl	450
Ca	40
Sd	1.0
Sol	17.5
Oil	---
H2O	82.5
LCM	---

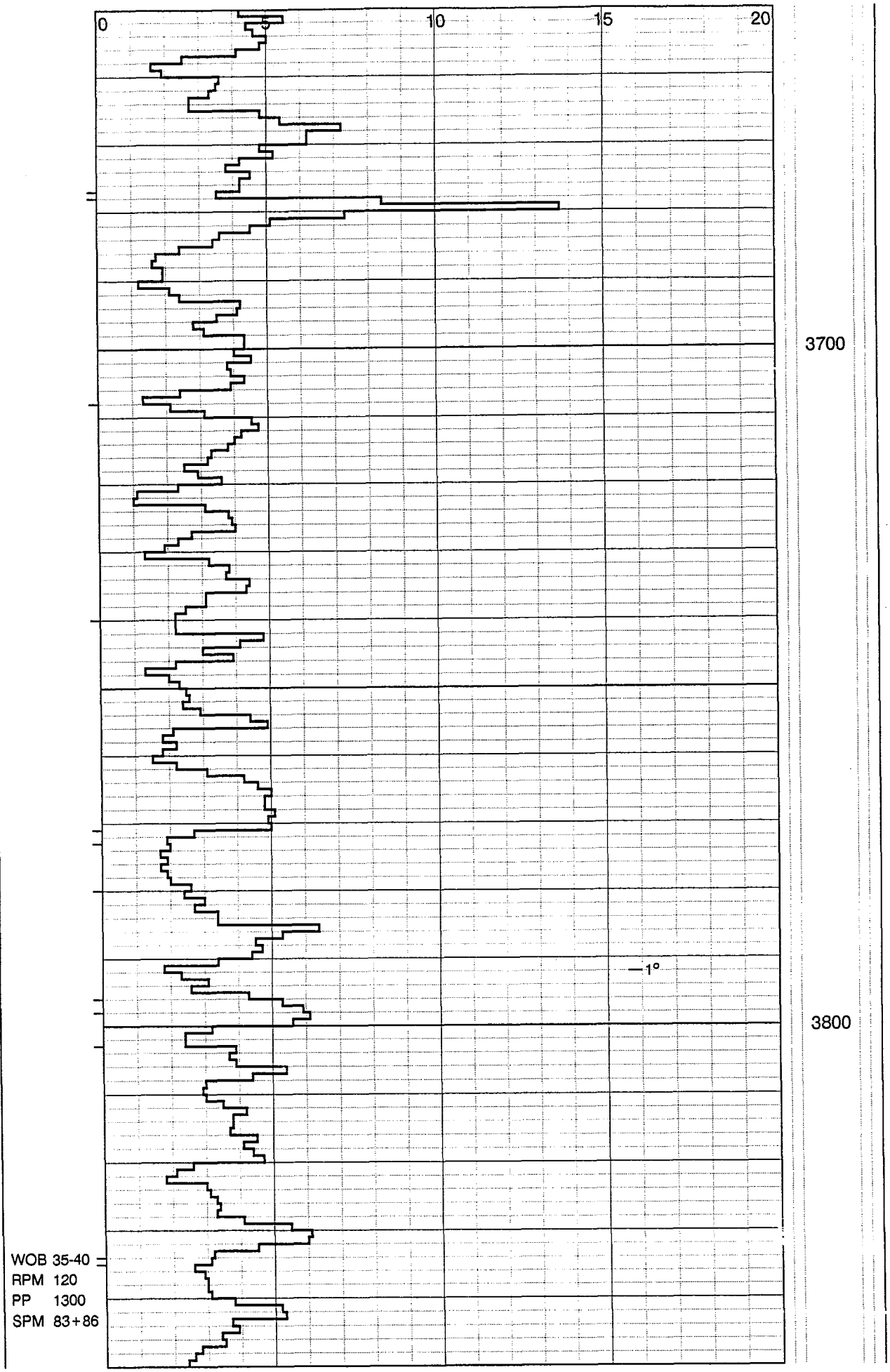


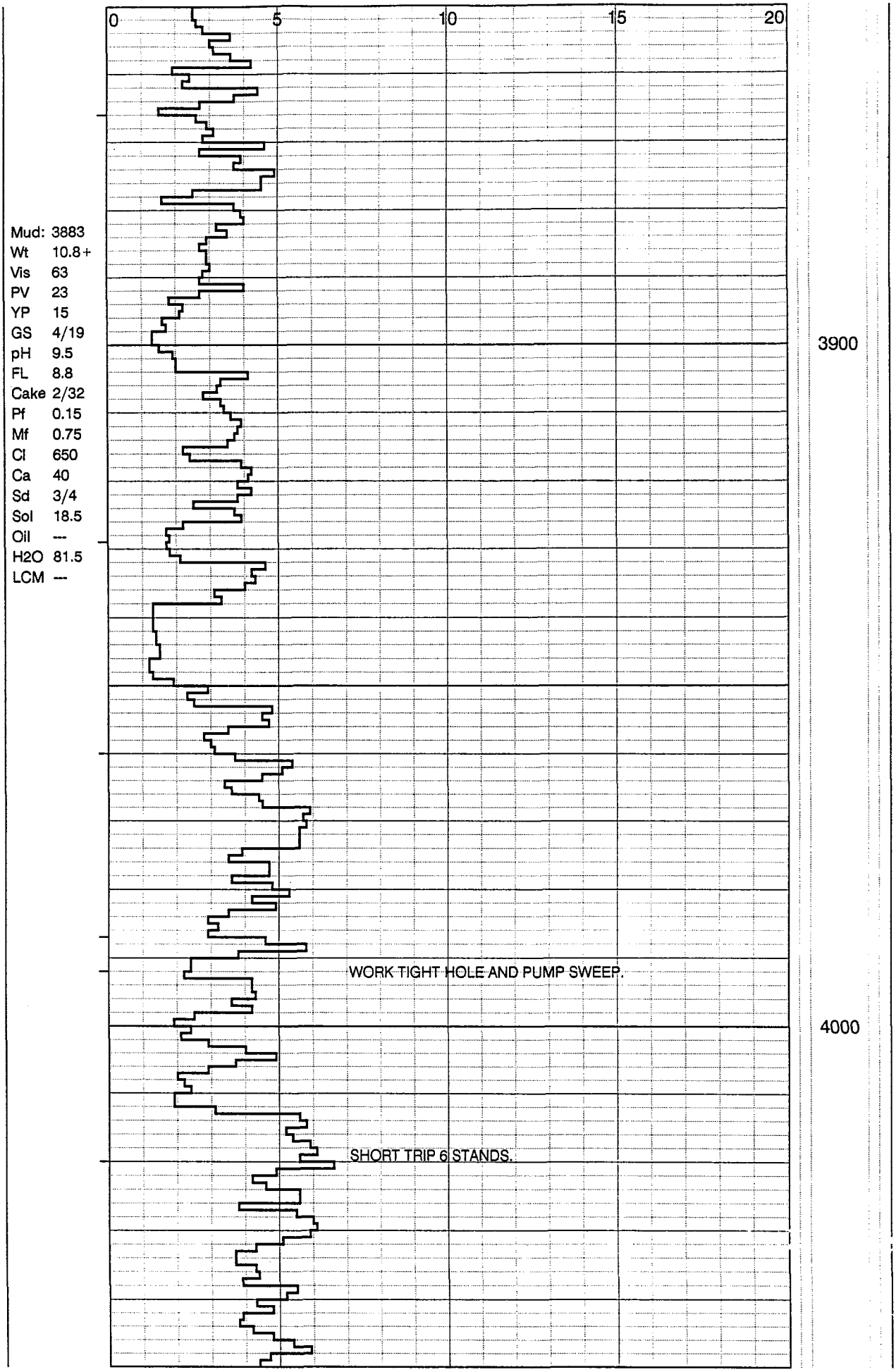

0
5
10
15
20
WOB 35-40
RPM 140
PP 1600
SPM 91+98
2900
Mud: 2963
Wt 10.7+
Vis 45
PV 20
YP 17
GS 5/15
pH 9.0
FL 8.8
Cake 3/32
Pf 0.05
Mf 0.70
Cl 500
Ca 40
Sd 1.0
Sol 18.0
Oil ---
H2O 82.0
LCM ---
—3/4°
3000

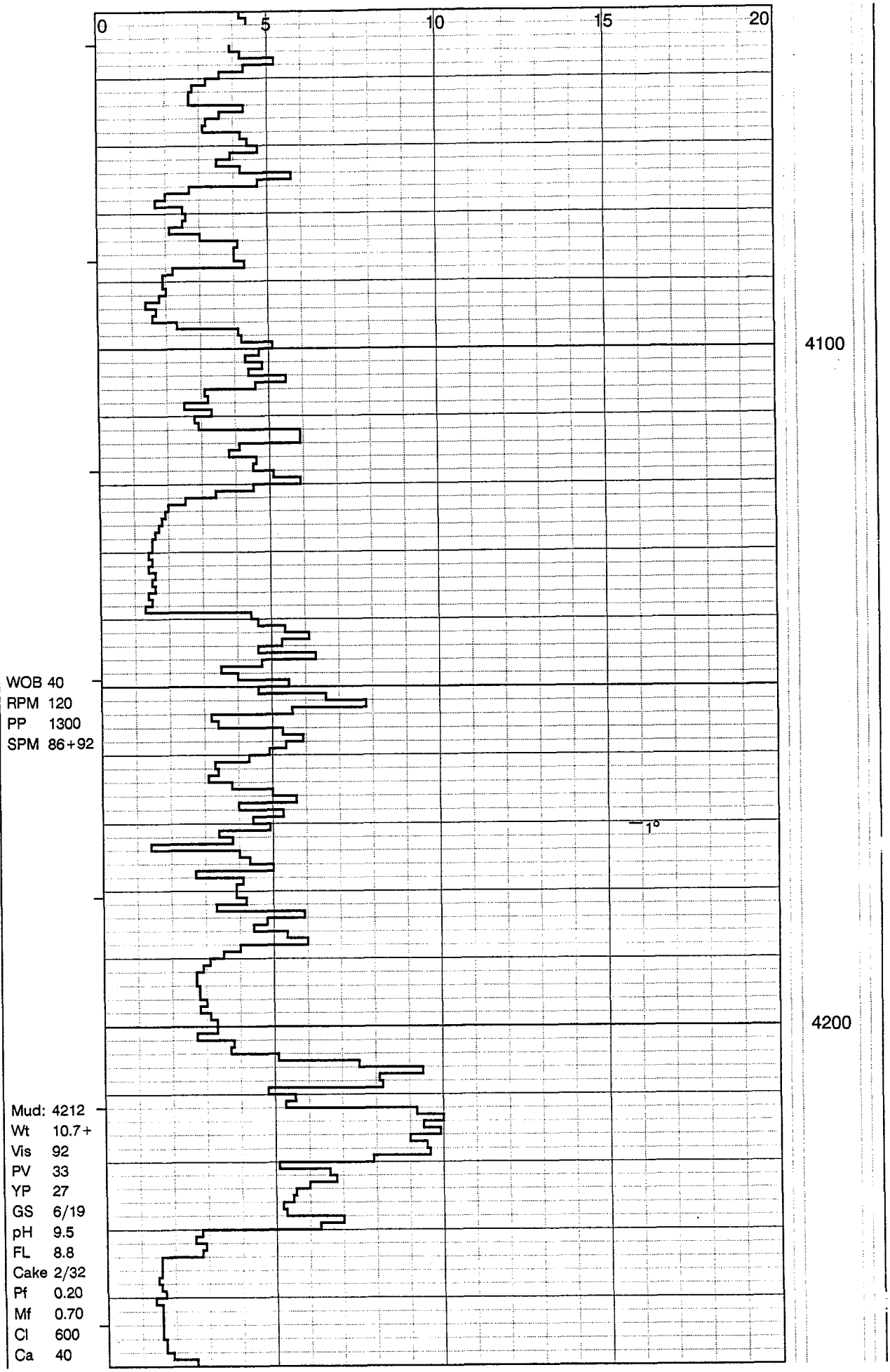

0
5
10
15
20
3100
3200
WIPER TRIP 12 STANDS.
TIGHT 2950--3000 ON TRIP OUT.
TIGHT 2636--2730 & 2775--2975 ON TRIP IN.
WASH & REAM 2975--3053 & 3151--3201

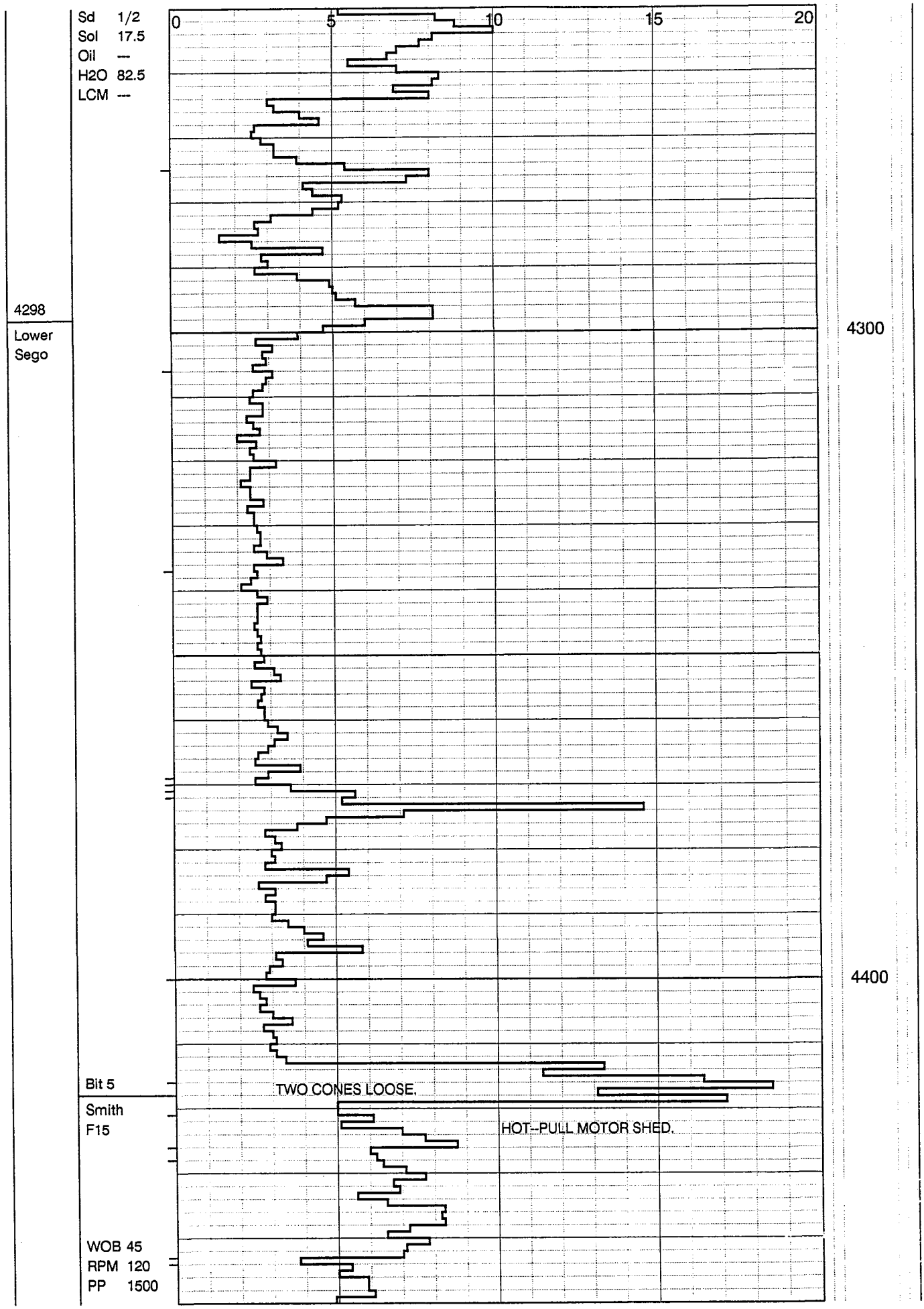

0
5
10
15
20
WOB 40
RPM 140
PP 1600
SPM 88+94
—1/4°
3300
Mud: 3330
Wt 10.7+
Vis 45
PV 18
YP 10
GS 3/10
pH 9.5
FL 8.0
Cake 2/32
Pf 0.10
Mf 0.45
Cl 550
Ca 40
Sd 1/4
Sol 17.2
Oil ---
H2O 82.8
LCM ---
3400
LEVEL DERRICK. REMOVE ROTATING HEAD.

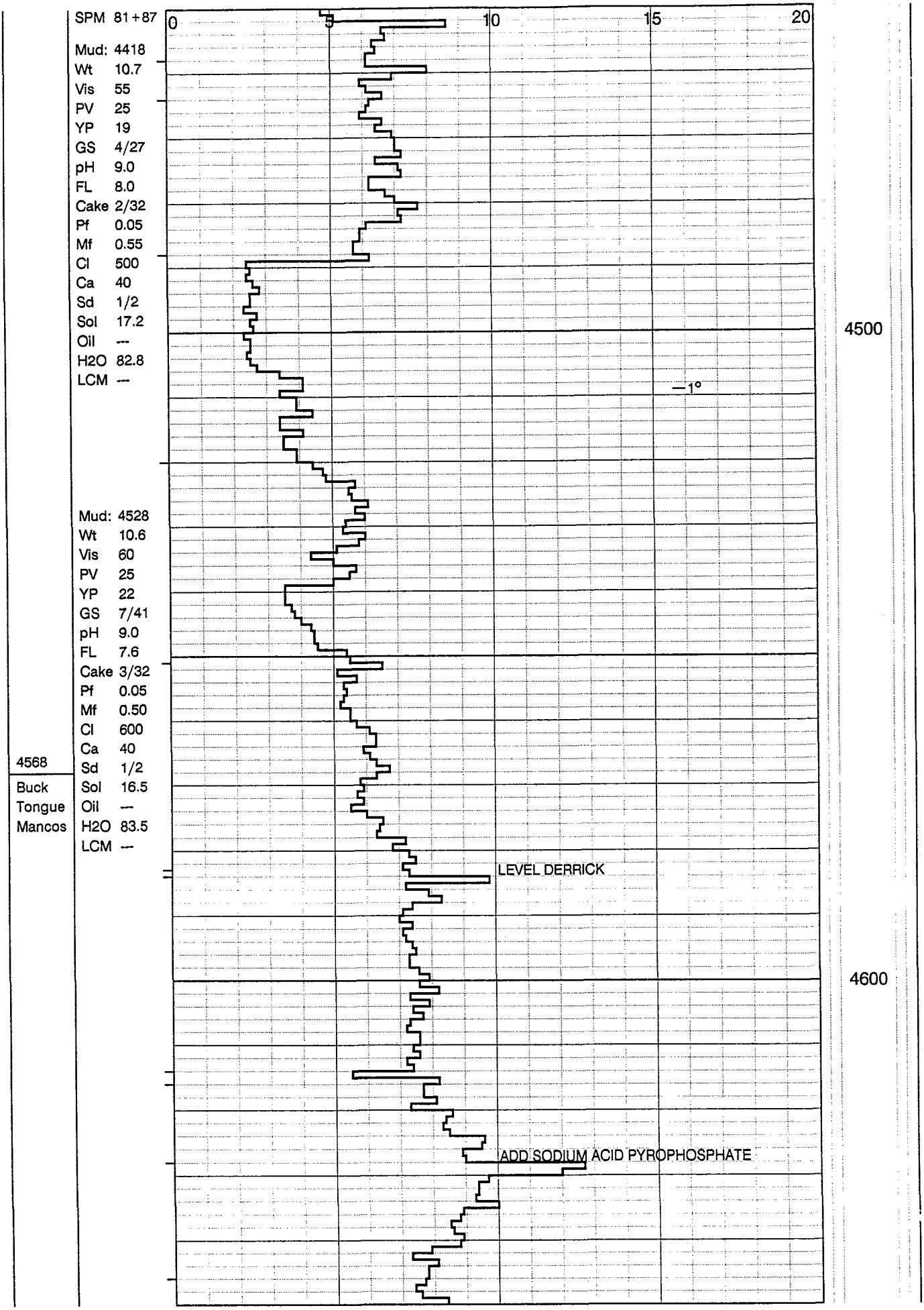

0
5
10
15
20
Mud: 3560
Wt 10.6+
Vis 46
PV 16
YP 12
GS 2/10
pH 9.0
FL 8.8
Cake 2/32
Pf 0.05
Mf 0.50
Cl 550
Ca 40
Sd 1/4
Sol 16.8
Oil ---
H2O 83.2
LCM ---
Bit 4
Reed
HP51A
Mud: 3553
Wt 10.8
Vis 45
PV 15
YP 12
GS 3/9
pH 9.0
FL 8.4
Cake 2/32
Pf 0.05
Mf 0.50
Cl 500
Ca 40
Sd 1/4
Sol 18.0
Oil ---
H2O 82.0
LCM ---
WOB 35
RPM 100
PP 1000
SPM 83+77
SHORT TRIP AT 3543.
TWISTED OFF 8" DRILL COLLARS.
MAGNAFLUXED. SIX BAD 8" DRILL COLLARS.
3500
3600

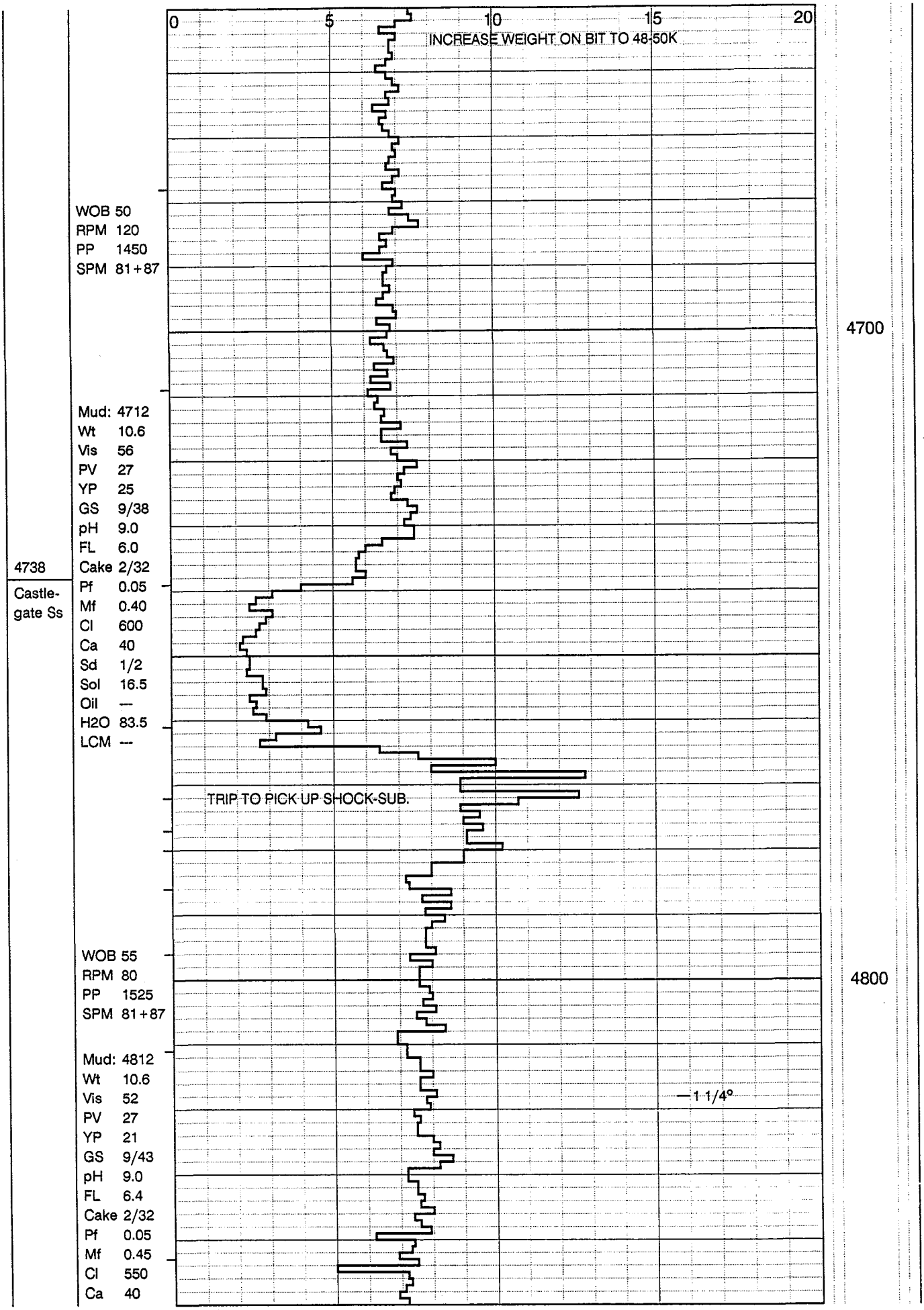

0
5
10
15
20
3700
3800
1°
WOB 35-40
RPM 120
PP 1300
SPM 83+86

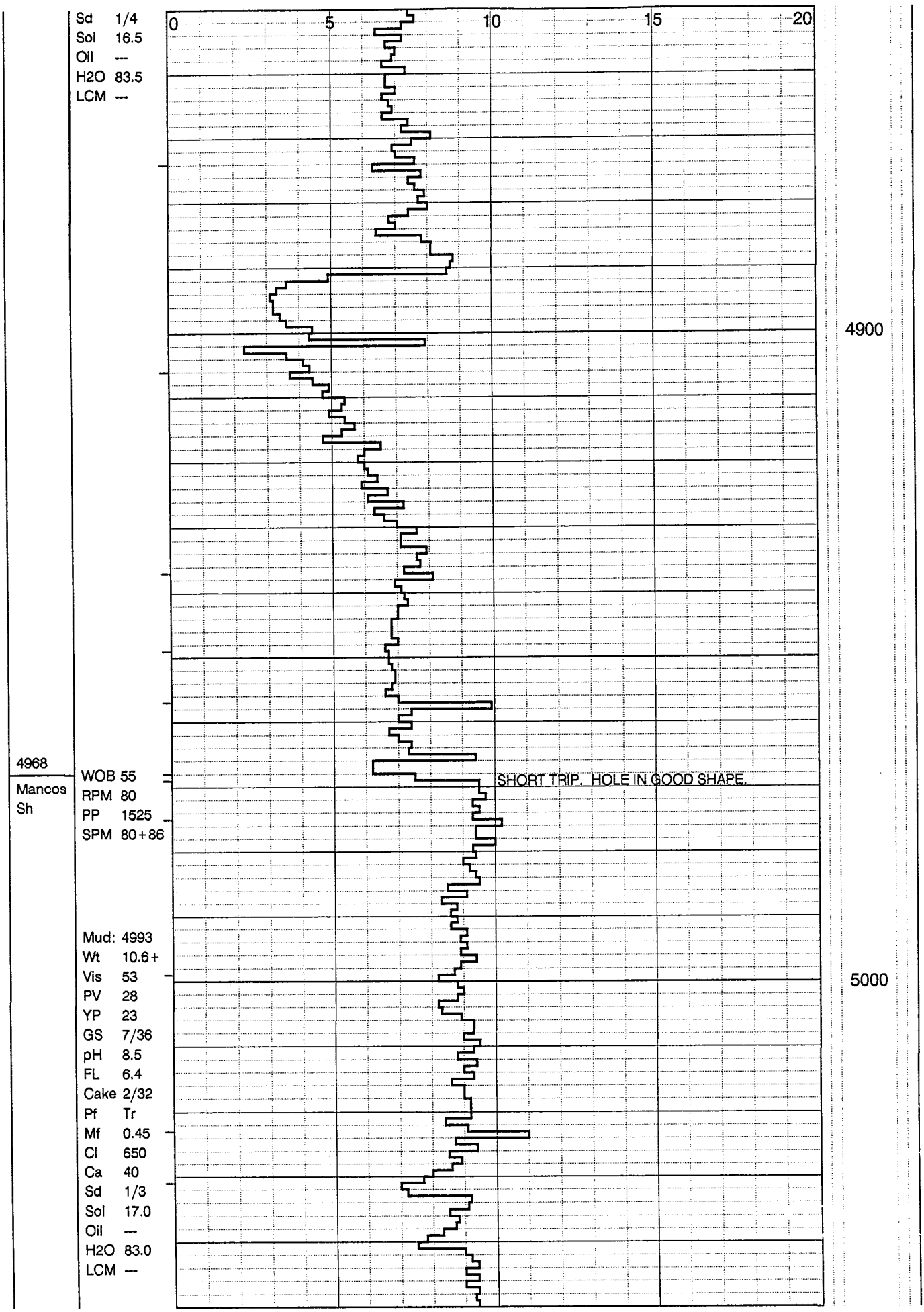

0
5
10
15
20
Mud: 3883
Wt 10.8+
Vis 63
PV 23
YP 15
GS 4/19
pH 9.5
FL 8.8
Cake 2/32
Pf 0.15
Mf 0.75
Cl 650
Ca 40
Sd 3/4
Sol 18.5
Oil ---
H2O 81.5
LCM ---
3900
WORK TIGHT HOLE AND PUMP SWEEP.
4000
SHORT TRIP 6 STANDS.

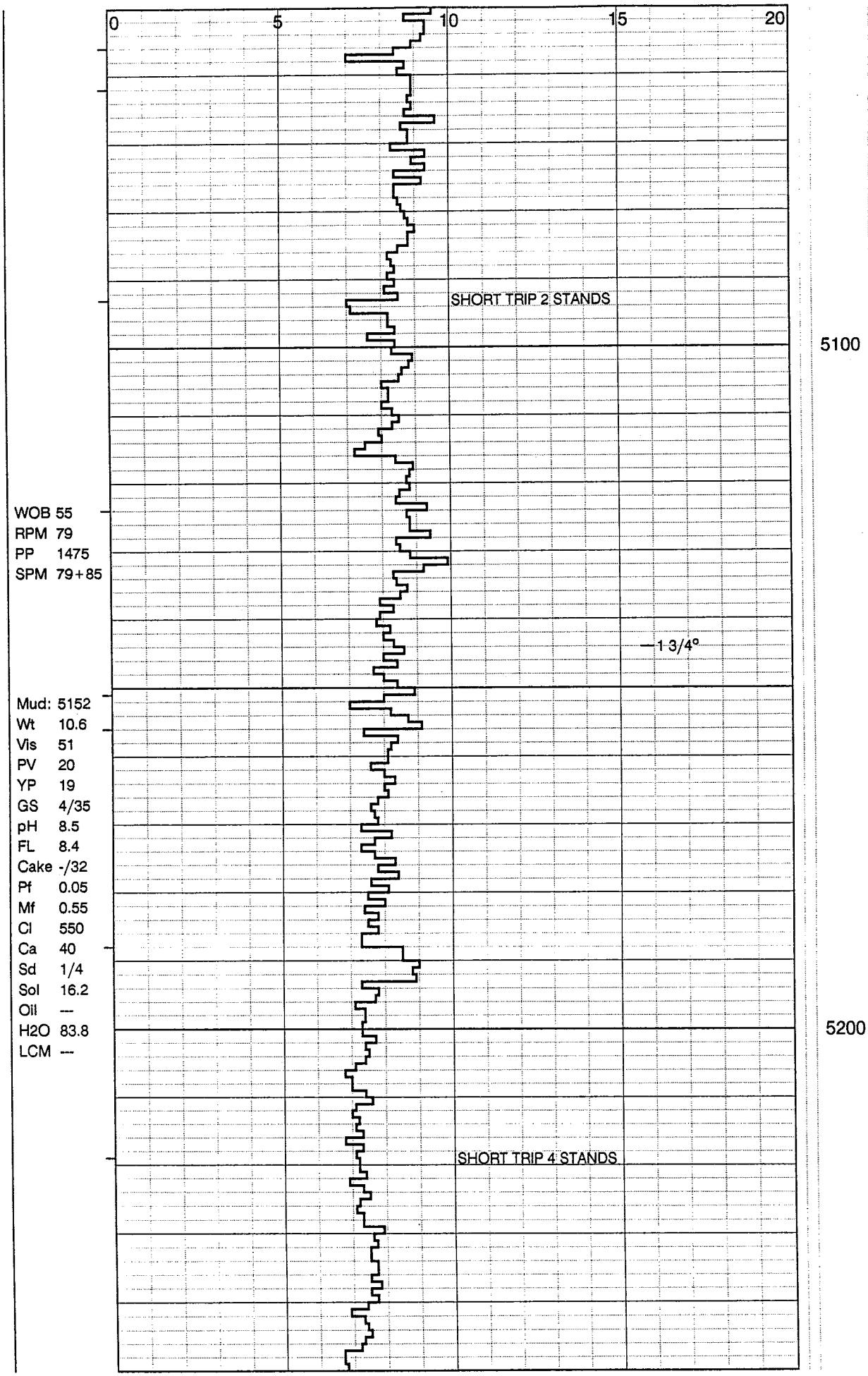

0
5
10
15
20
4100
4200
WOB 40
RPM 120
PP 1300
SPM 86+92
1°
Mud: 4212
Wt 10.7+
Vis 92
PV 33
YP 27
GS 6/19
pH 9.5
FL 8.8
Cake 2/32
Pf 0.20
Mf 0.70
Cl 600
Ca 40

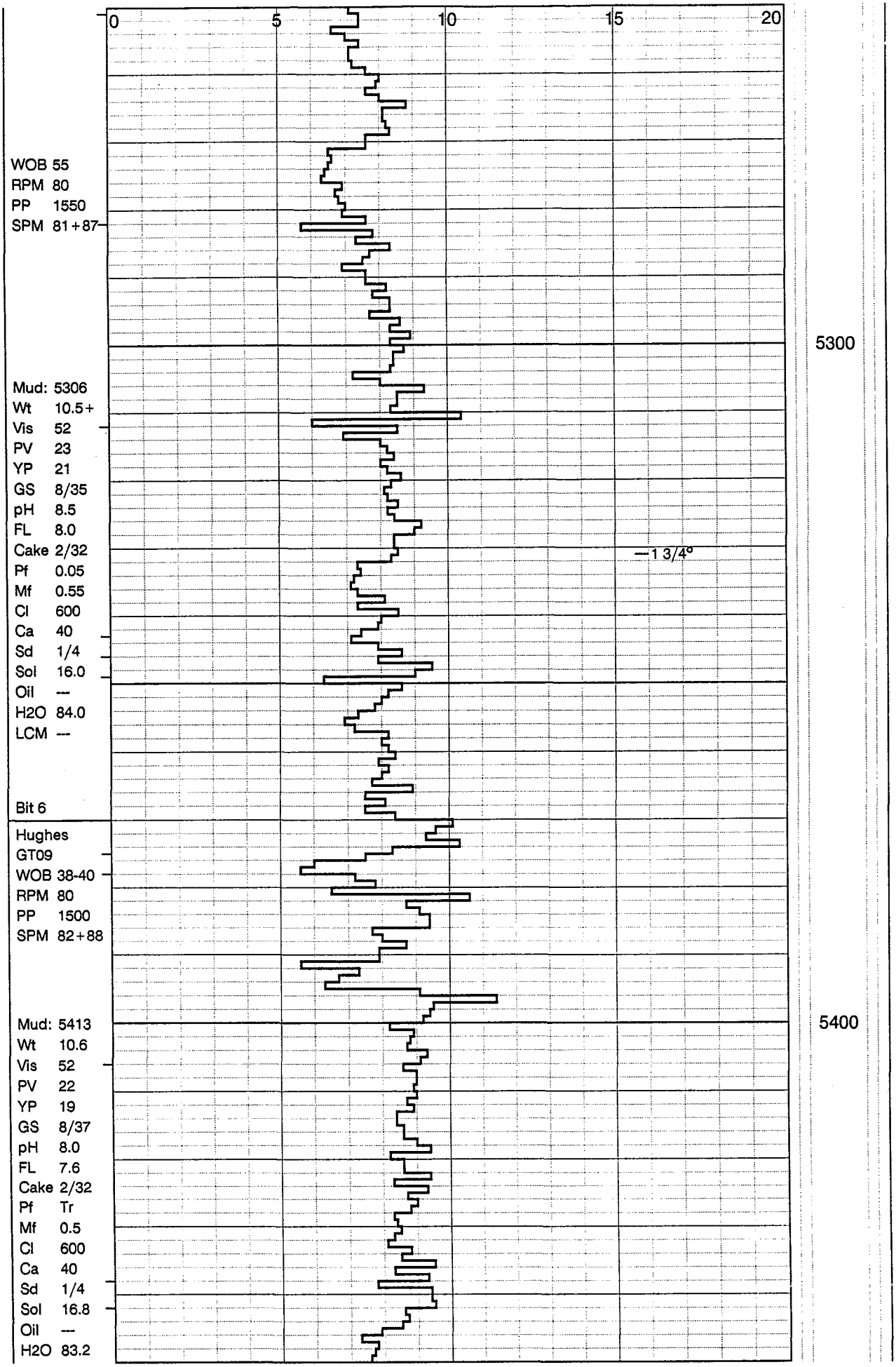

Sd 1/2
Sol 17.5
Oil ---
H2O 82.5
LCM ---
0
5
10
15
20
4298
Lower
Sego
4300
4400
Bit 5
Smith
F15
TWO CONES LOOSE.
HOT--PULL MOTOR SHED.
WOB 45
RPM 120
PP 1500

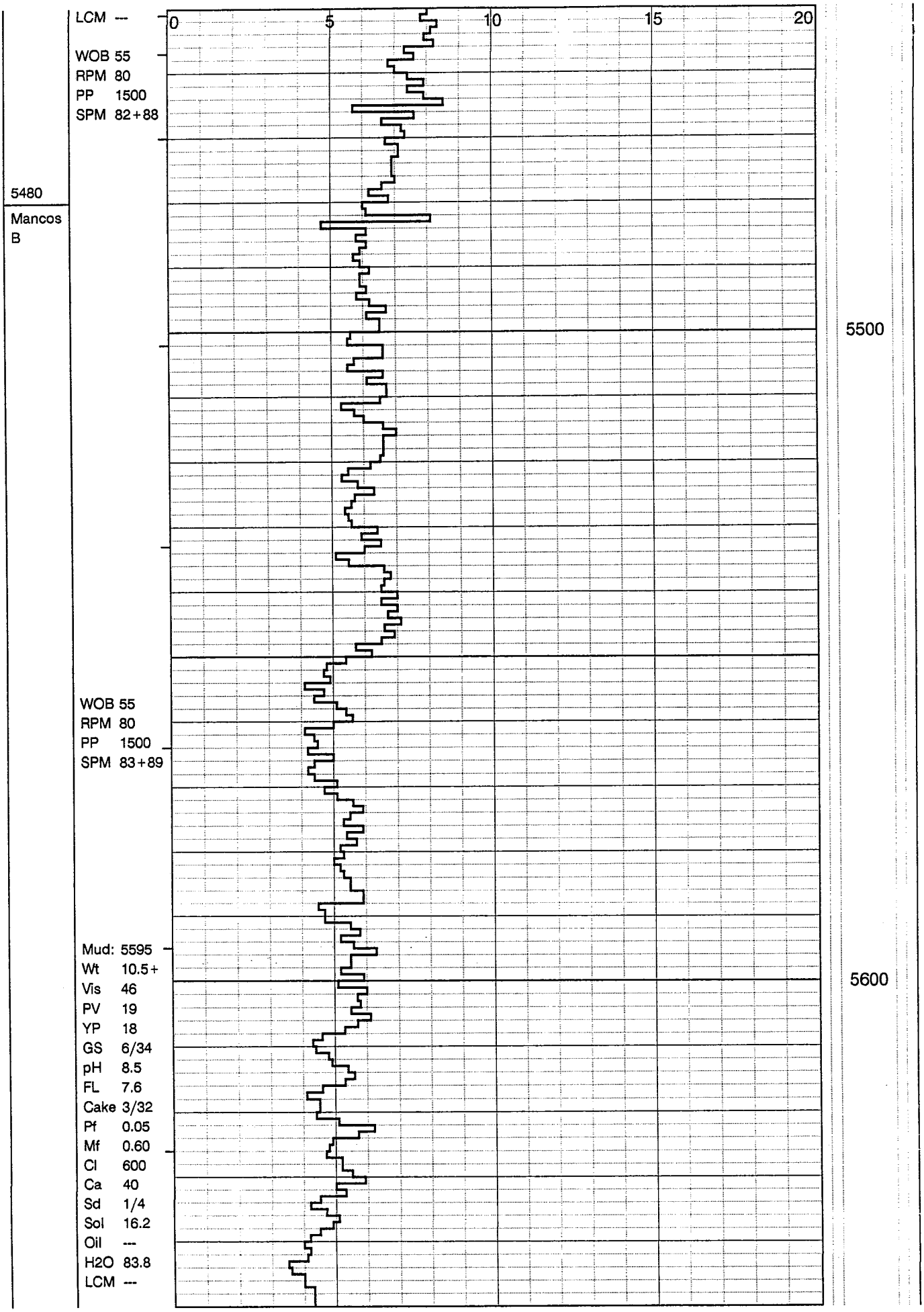

SPM 81+87
Mud: 4418
Wt 10.7
Vis 55
PV 25
YP 19
GS 4/27
pH 9.0
FL 8.0
Cake 2/32
Pf 0.05
Mf 0.55
Cl 500
Ca 40
Sd 1/2
Sol 17.2
Oil ---
H2O 82.8
LCM ---
Mud: 4528
Wt 10.6
Vis 60
PV 25
YP 22
GS 7/41
pH 9.0
FL 7.6
Cake 3/32
Pf 0.05
Mf 0.50
Cl 600
Ca 40
Sd 1/2
Sol 16.5
Oil ---
H2O 83.5
LCM ---
4568
Buck Tongue Mancos
0
5
10
15
20
4500
4600
—1°
LEVEL DERRICK
ADD SODIUM ACID PYROPHOSPHATE

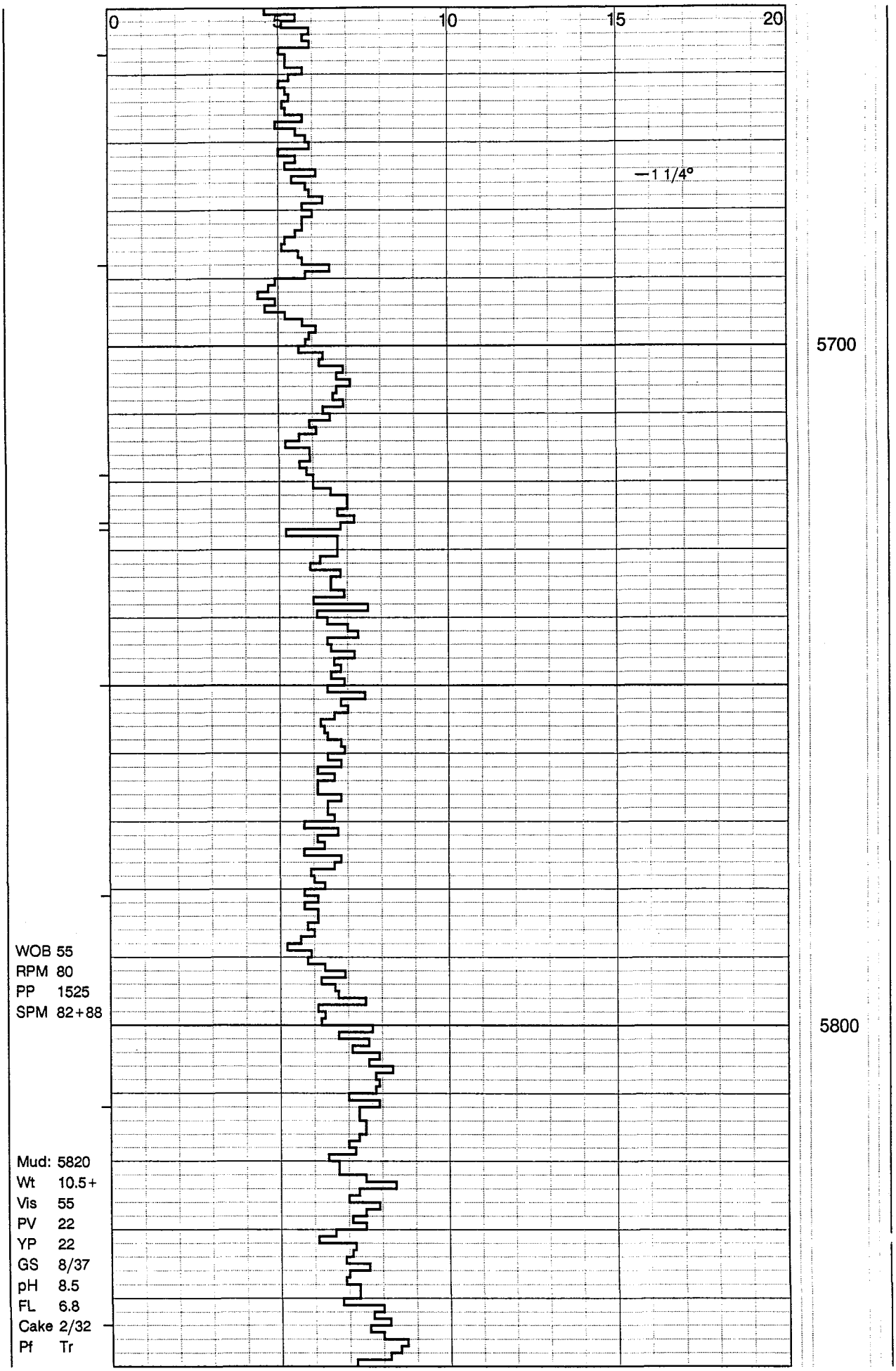

0
5
10
15
20
INCREASE WEIGHT ON BIT TO 48-50K
WOB 50
RPM 120
PP 1450
SPM 81+87
4700
Mud: 4712
Wt 10.6
Vis 56
PV 27
YP 25
GS 9/38
pH 9.0
FL 6.0
Cake 2/32
Pf 0.05
Mf 0.40
Cl 600
Ca 40
Sd 1/2
Sol 16.5
Oil —
H2O 83.5
LCM —
4738
Castle-gate Ss
TRIP TO PICK UP SHOCK-SUB.
WOB 55
RPM 80
PP 1525
SPM 81+87
4800
Mud: 4812
Wt 10.6
Vis 52
PV 27
YP 21
GS 9/43
pH 9.0
FL 6.4
Cake 2/32
Pf 0.05
Mf 0.45
Cl 550
Ca 40
—1 1/4°


Sd 1/4
Sol 16.5
Oil —
H2O 83.5
LCM —
0
5
10
15
20
4900
4968
Mancos Sh
WOB 55
RPM 80
PP 1525
SPM 80+86
SHORT TRIP. HOLE IN GOOD SHAPE.
Mud: 4993
Wt 10.6+
Vis 53
PV 28
YP 23
GS 7/36
pH 8.5
FL 6.4
Cake 2/32
Pf Tr
Mf 0.45
Cl 650
Ca 40
Sd 1/3
Sol 17.0
Oil —
H2O 83.0
LCM —
5000

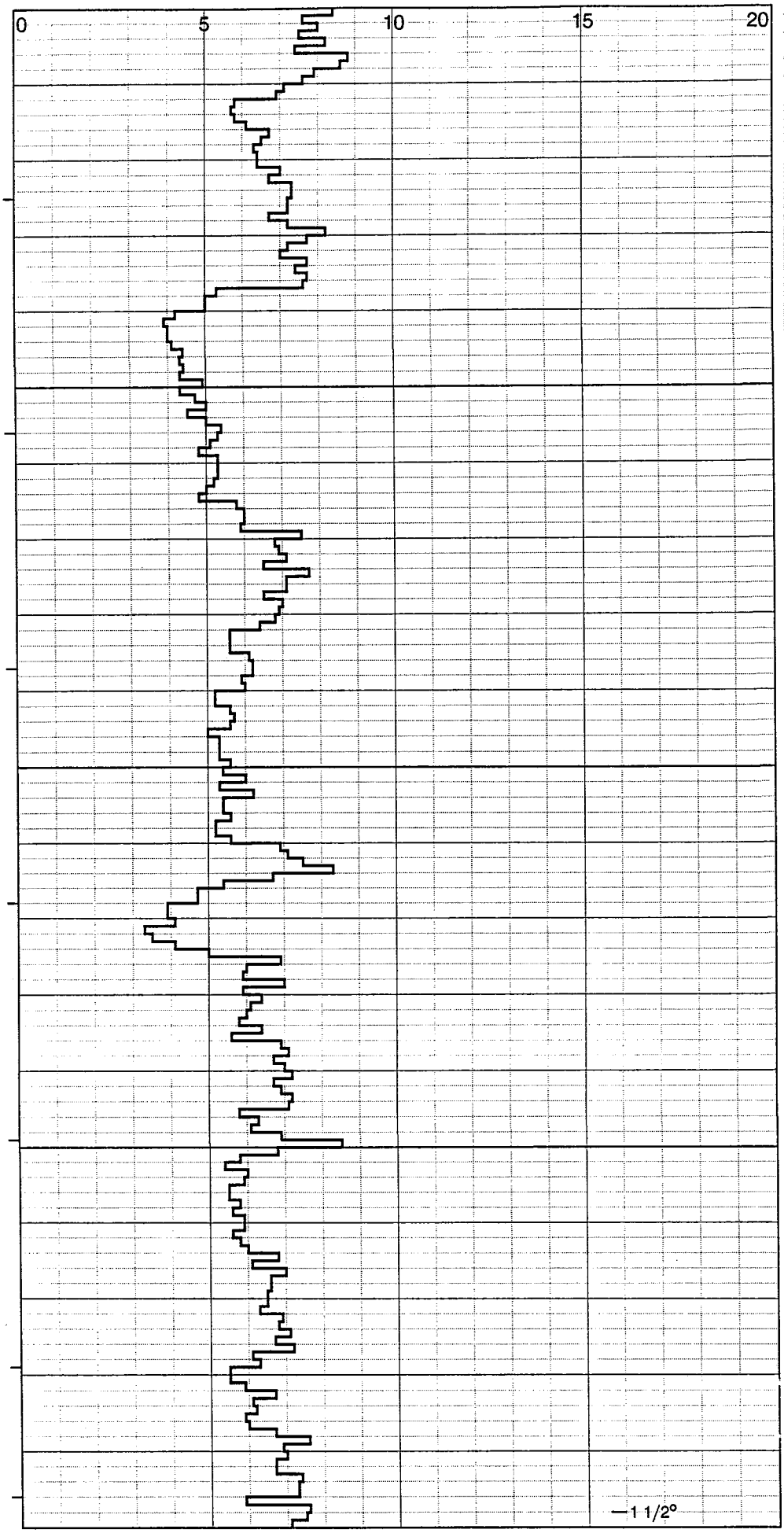

0
5
10
15
20
SHORT TRIP 2 STANDS
5100
WOB 55
RPM 79
PP 1475
SPM 79+85
—1 3/4°
Mud: 5152
Wt 10.6
Vis 51
PV 20
YP 19
GS 4/35
pH 8.5
FL 8.4
Cake -/32
Pf 0.05
Mf 0.55
Cl 550
Ca 40
Sd 1/4
Sol 16.2
Oil —
H2O 83.8
LCM —
5200
SHORT TRIP 4 STANDS

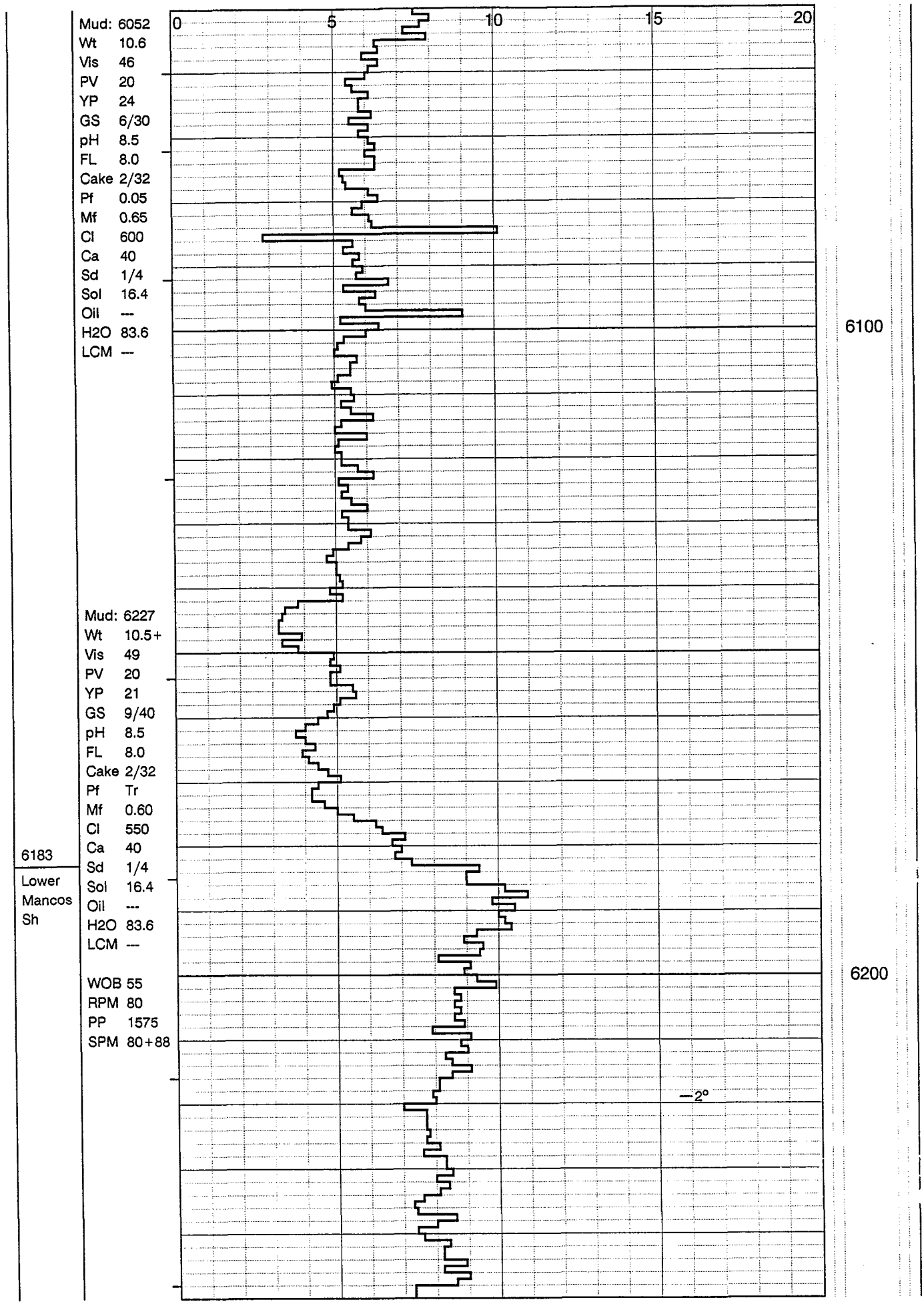

0
5
10
15
20
WOB 55
RPM 80
PP 1550
SPM 81+87
5300
Mud: 5306
Wt 10.5+
Vis 52
PV 23
YP 21
GS 8/35
pH 8.5
FL 8.0
Cake 2/32
Pf 0.05
Mf 0.55
Cl 600
Ca 40
Sd 1/4
Sol 16.0
Oil ---
H2O 84.0
LCM ---
1 3/4°
Bit 6
Hughes
GT09
WOB 38-40
RPM 80
PP 1500
SPM 82+88
5400
Mud: 5413
Wt 10.6
Vis 52
PV 22
YP 19
GS 8/37
pH 8.0
FL 7.6
Cake 2/32
Pf Tr
Mf 0.5
Cl 600
Ca 40
Sd 1/4
Sol 16.8
Oil ---
H2O 83.2

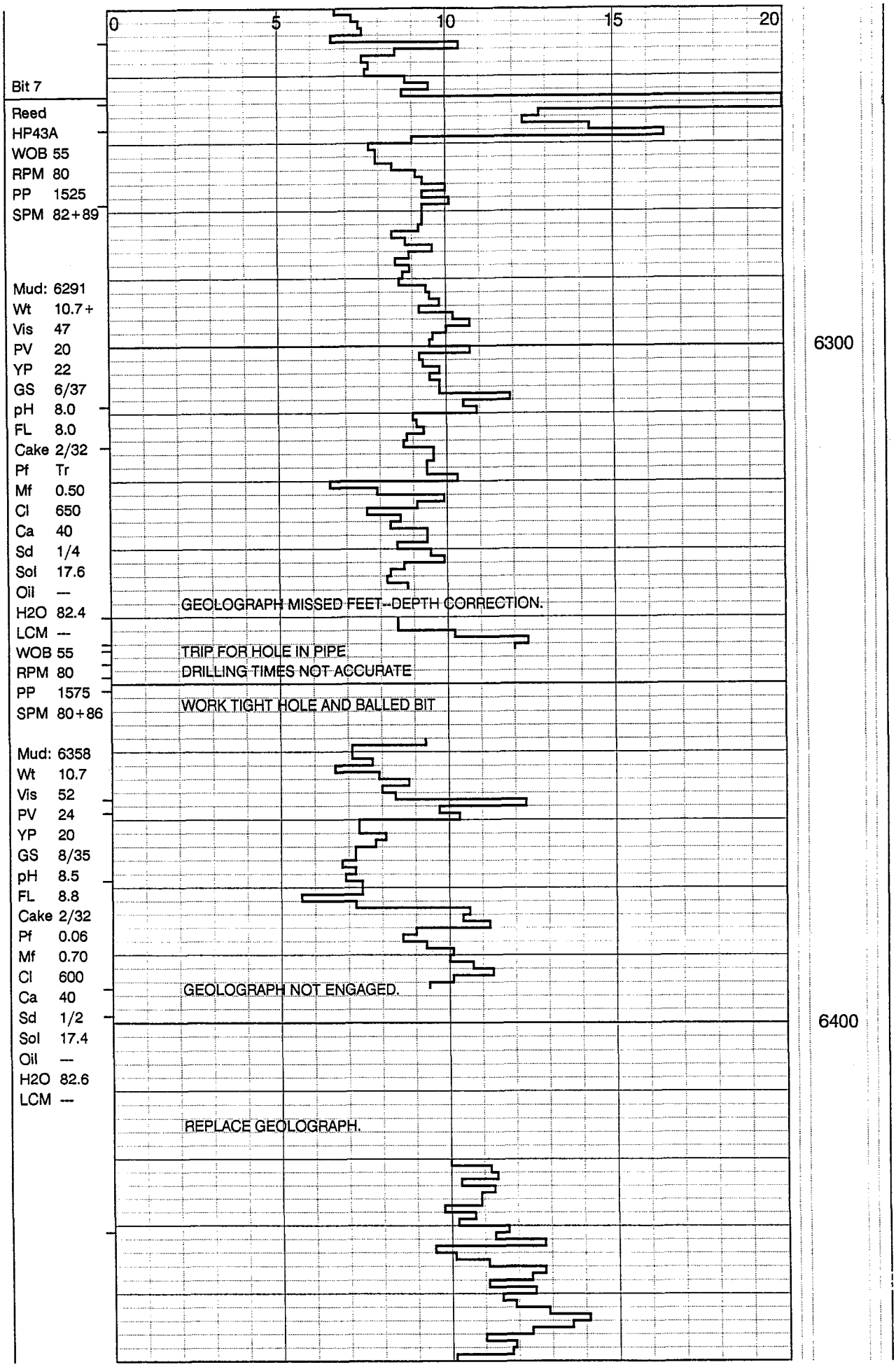

LCM ---
WOB 55
RPM 80
PP 1500
SPM 82+88
5480
Mancos
B
0
5
10
15
20
5500
WOB 55
RPM 80
PP 1500
SPM 83+89
Mud: 5595
Wt 10.5+
Vis 46
PV 19
YP 18
GS 6/34
pH 8.5
FL 7.6
Cake 3/32
Pf 0.05
Mf 0.60
Cl 600
Ca 40
Sd 1/4
Sol 16.2
Oil ---
H2O 83.8
LCM ---
5600

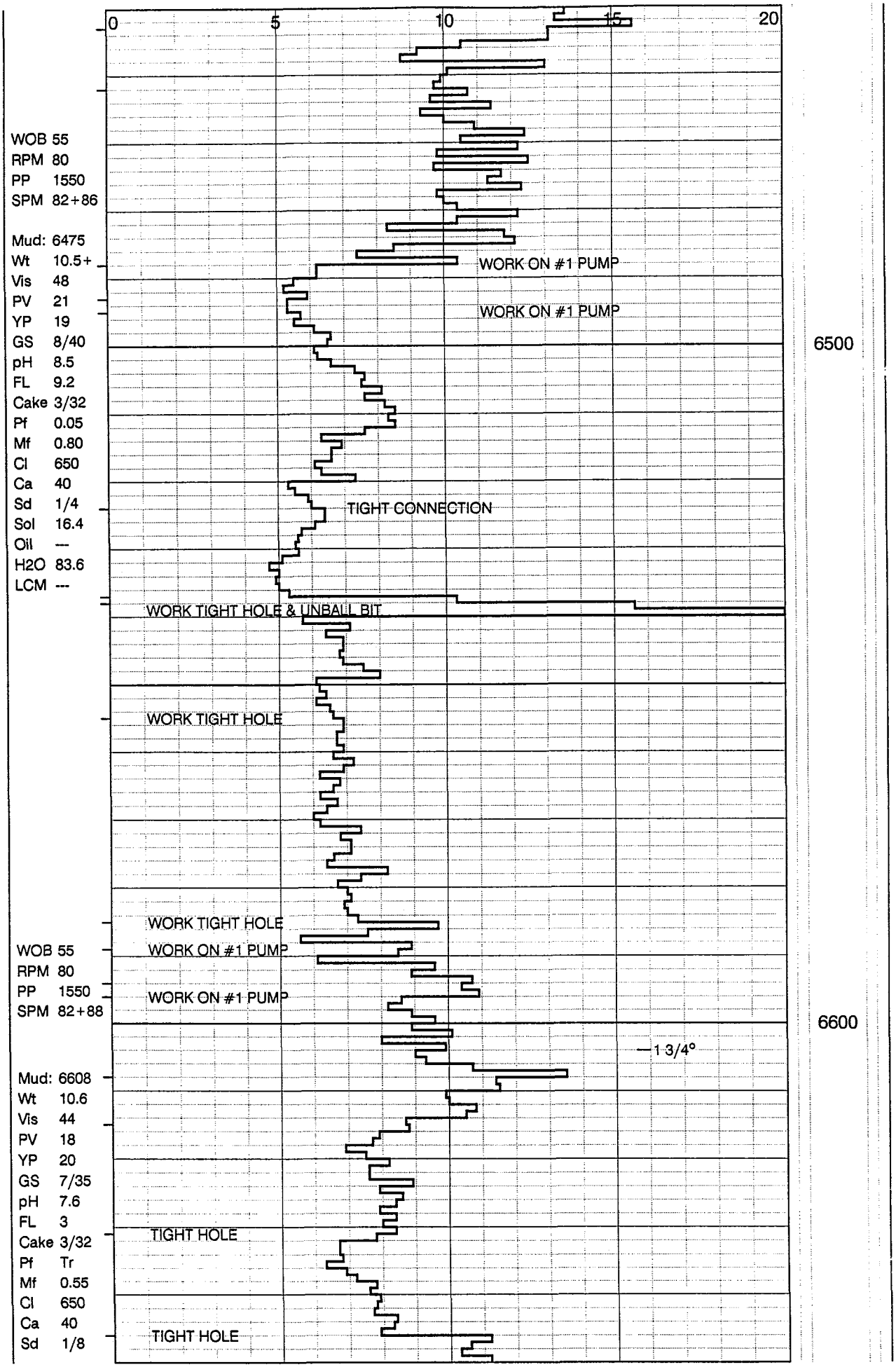

0
5
10
15
20
—1 1/4°
5700
5800
WOB 55
RPM 80
PP 1525
SPM 82+88
Mud: 5820
Wt 10.5+
Vis 55
PV 22
YP 22
GS 8/37
pH 8.5
FL 6.8
Cake 2/32
Pf Tr

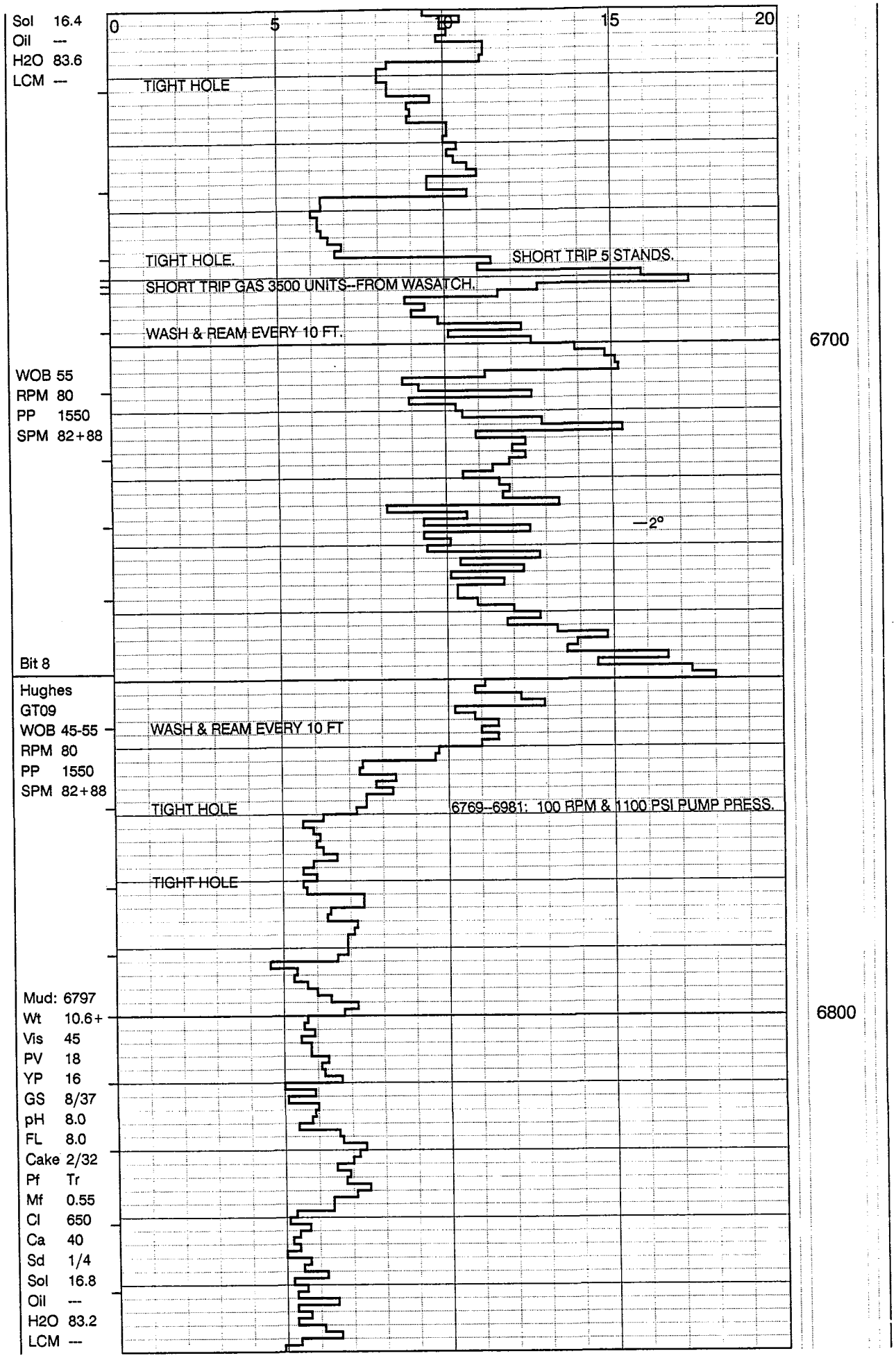
Mf	0.55
Cl	650
Ca	40
Sd	1/4
Sol	16.3
Oil	---
H2O	83.7
LCM	---

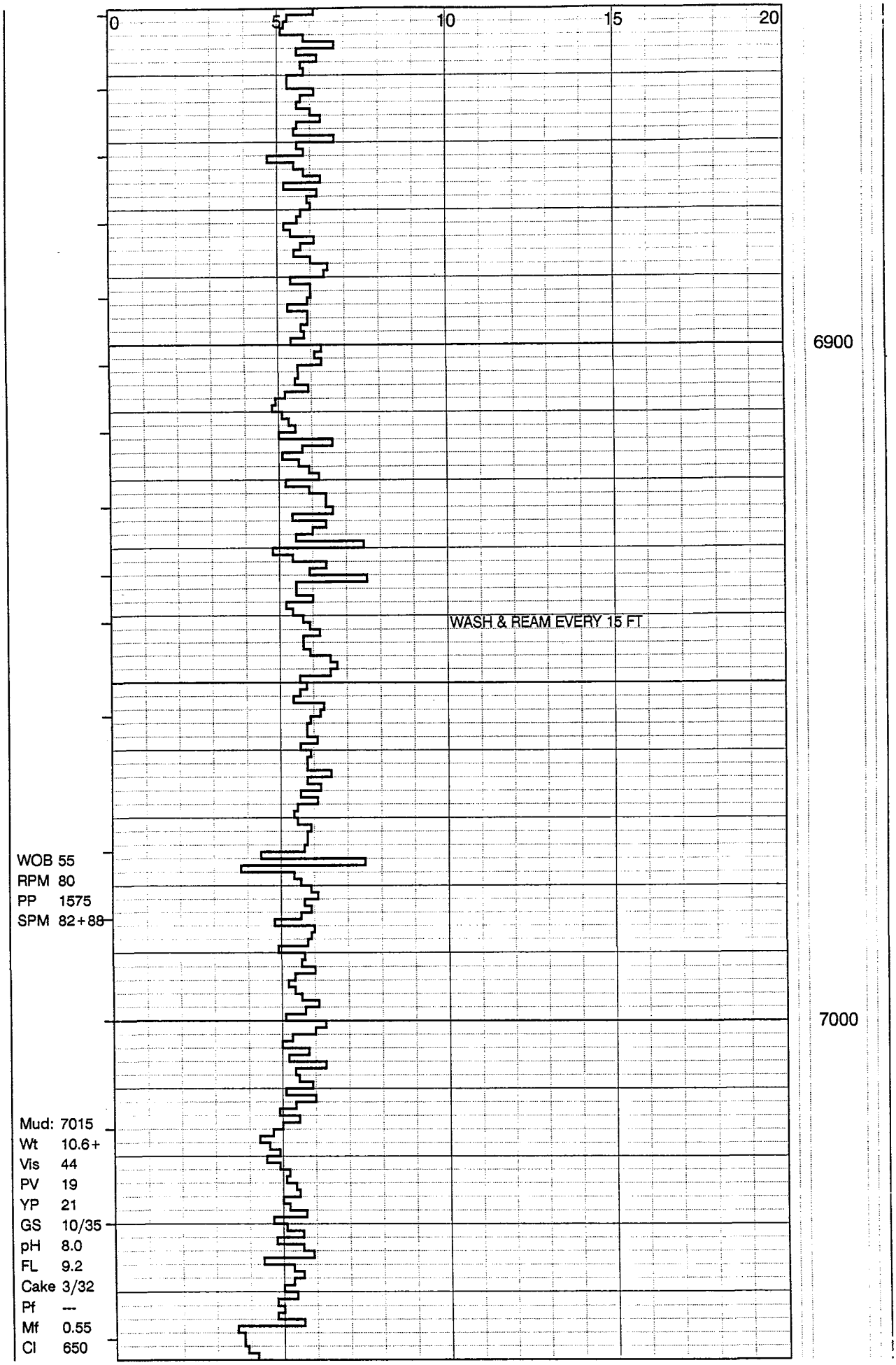


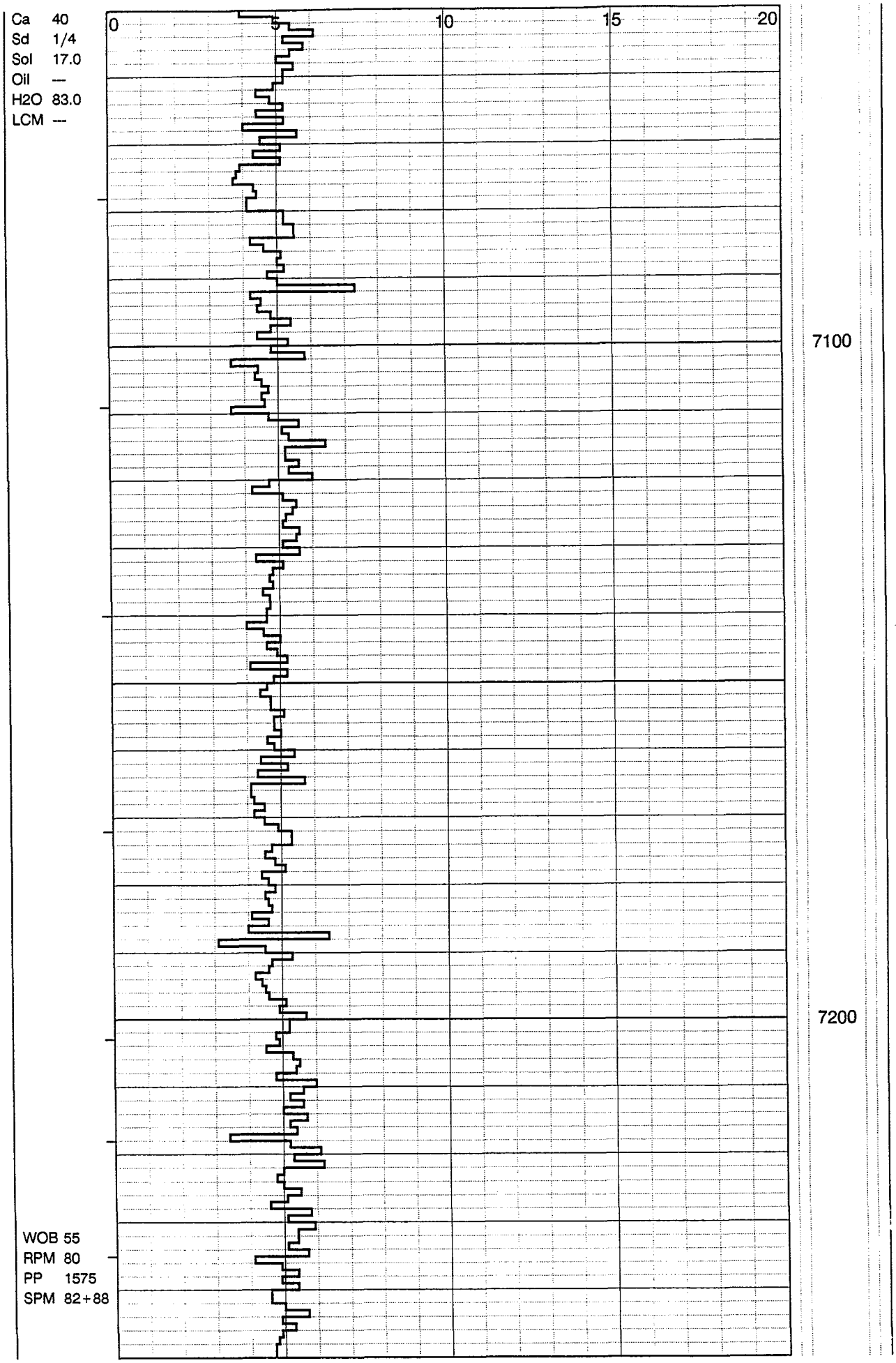

Mud: 6052
Wt 10.6
Vis 46
PV 20
YP 24
GS 6/30
pH 8.5
FL 8.0
Cake 2/32
Pf 0.05
Mf 0.65
Cl 600
Ca 40
Sd 1/4
Sol 16.4
Oil ---
H2O 83.6
LCM ---
0
5
10
15
20
6100
Mud: 6227
Wt 10.5+
Vis 49
PV 20
YP 21
GS 9/40
pH 8.5
FL 8.0
Cake 2/32
Pf Tr
Mf 0.60
Cl 550
Ca 40
Sd 1/4
Sol 16.4
Oil ---
H2O 83.6
LCM ---
6183
Lower
Mancos
Sh
WOB 55
RPM 80
PP 1575
SPM 80+88
6200
—2°

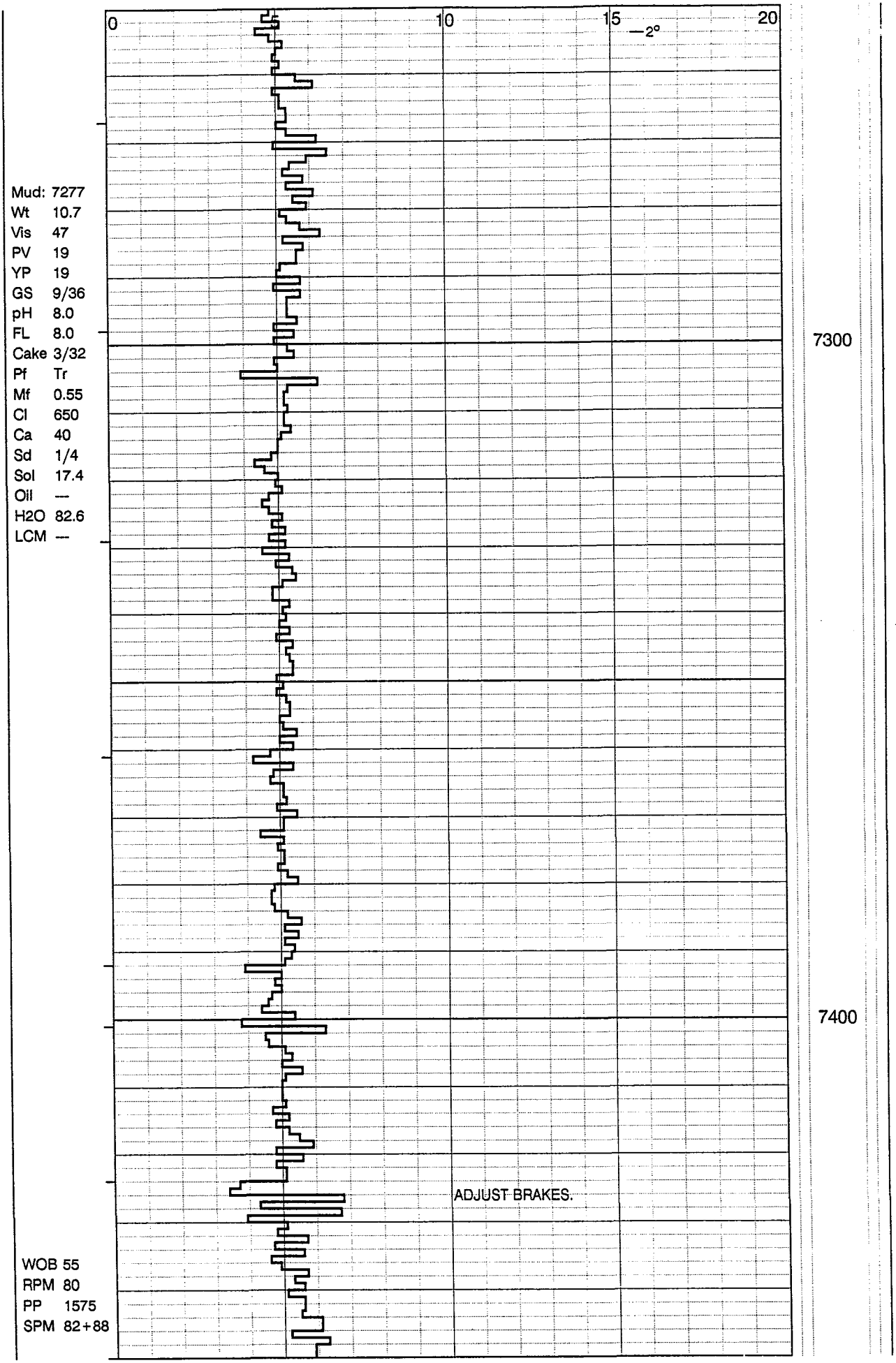

0
5
10
15
20
Bit 7
Reed
HP43A
WOB 55
RPM 80
PP 1525
SPM 82+89
Mud: 6291
Wt 10.7+
Vis 47
PV 20
YP 22
GS 6/37
pH 8.0
FL 8.0
Cake 2/32
Pf Tr
Mf 0.50
Cl 650
Ca 40
Sd 1/4
Sol 17.6
Oil —
H2O 82.4
LCM —
GEOLOGRAPH MISSED FEET--DEPTH CORRECTION.
WOB 55
RPM 80
PP 1575
SPM 80+86
TRIP FOR HOLE IN PIPE
DRILLING TIMES NOT ACCURATE
WORK TIGHT HOLE AND BALLED BIT
Mud: 6358
Wt 10.7
Vis 52
PV 24
YP 20
GS 8/35
pH 8.5
FL 8.8
Cake 2/32
Pf 0.06
Mf 0.70
Cl 600
Ca 40
Sd 1/2
Sol 17.4
Oil —
H2O 82.6
LCM —
GEOLOGRAPH NOT ENGAGED.
REPLACE GEOLOGRAPH.
6300
6400

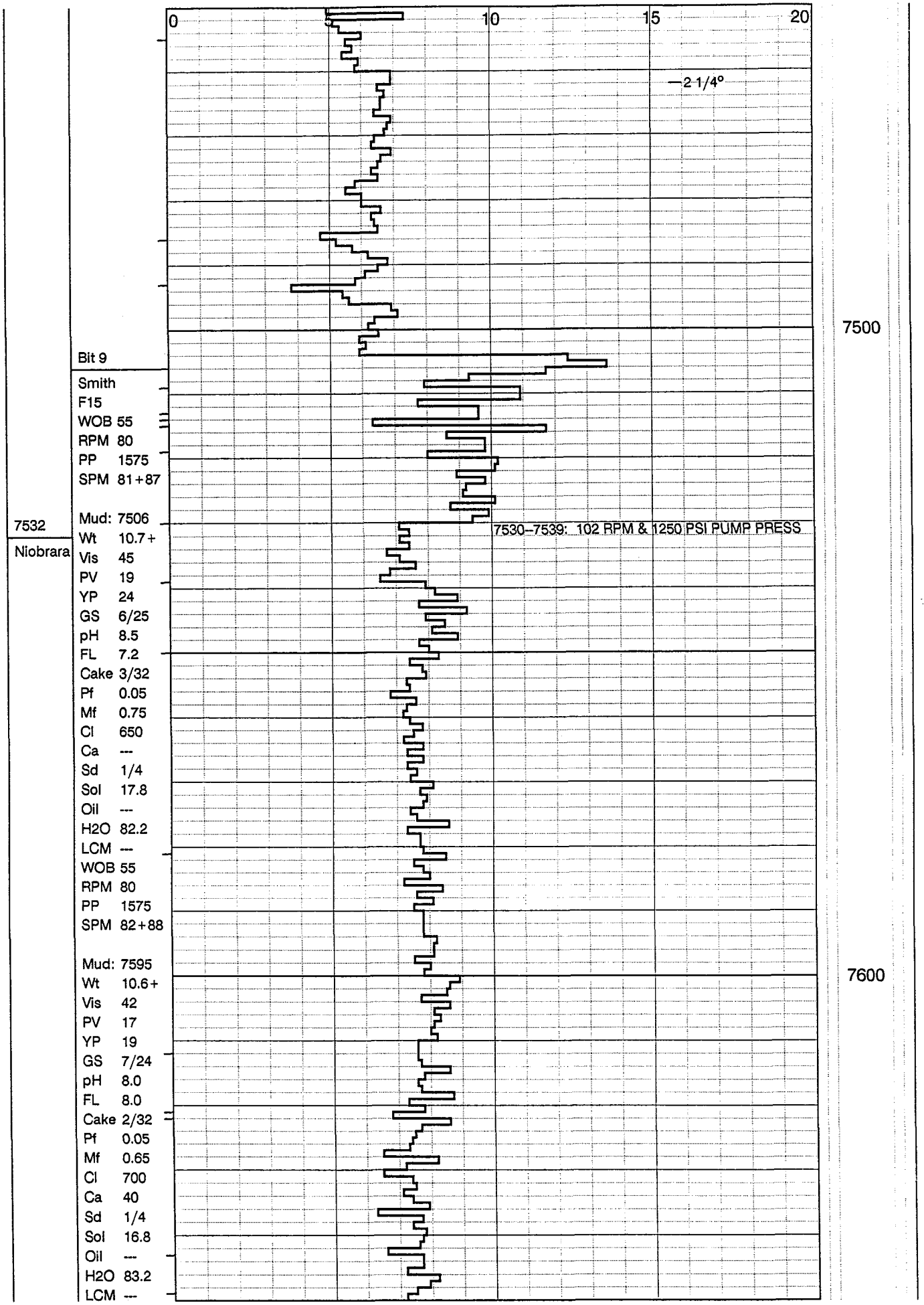

0
5
10
15
20
WOB 55
RPM 80
PP 1550
SPM 82+86
Mud: 6475
Wt 10.5+
Vis 48
PV 21
YP 19
GS 8/40
pH 8.5
FL 9.2
Cake 3/32
Pf 0.05
Mf 0.80
Cl 650
Ca 40
Sd 1/4
Sol 16.4
Oil ---
H2O 83.6
LCM ---
WORK ON #1 PUMP
WORK ON #1 PUMP
6500
TIGHT CONNECTION
WORK TIGHT HOLE & UNBALL BIT
WORK TIGHT HOLE
WORK TIGHT HOLE
WOB 55
WORK ON #1 PUMP
RPM 80
PP 1550
WORK ON #1 PUMP
SPM 82+88
6600
1 3/4°
Mud: 6608
Wt 10.6
Vis 44
PV 18
YP 20
GS 7/35
pH 7.6
FL 3
Cake 3/32
Pf Tr
Mf 0.55
Cl 650
Ca 40
Sd 1/8
TIGHT HOLE
TIGHT HOLE

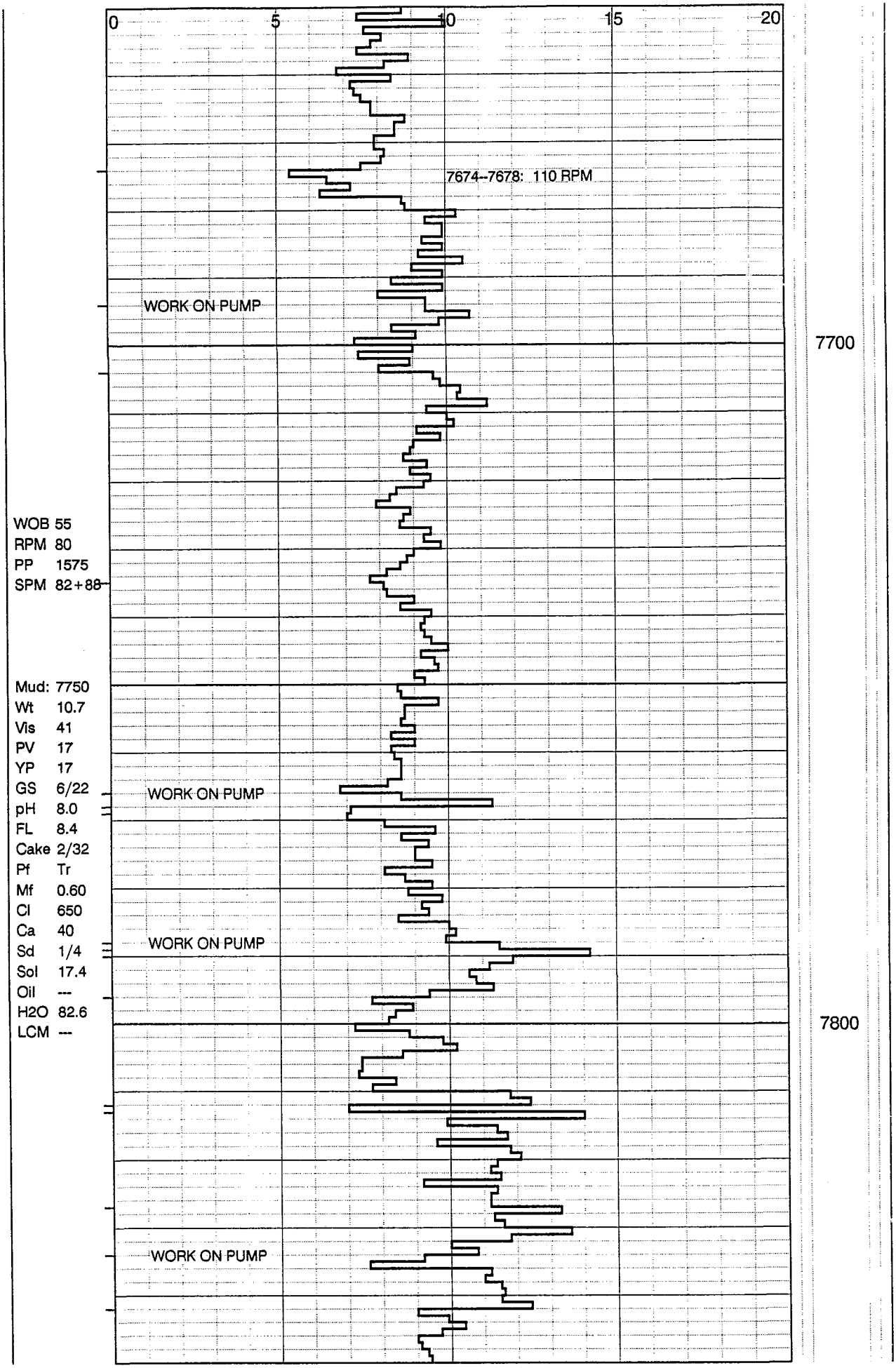

Sol 16.4
Oil ---
H2O 83.6
LCM ---
0
5
10
15
20
TIGHT HOLE
TIGHT HOLE.
SHORT TRIP 5 STANDS.
SHORT TRIP GAS 3500 UNITS--FROM WASATCH.
WASH & REAM EVERY 10 FT.
6700
WOB 55
RPM 80
PP 1550
SPM 82+88
—2°
Bit 8
Hughes
GT09
WOB 45-55
RPM 80
PP 1550
SPM 82+88
WASH & REAM EVERY 10 FT
TIGHT HOLE
6769--6981: 100 RPM & 1100 PSI PUMP PRESS.
TIGHT HOLE
Mud: 6797
Wt 10.6+
Vis 45
PV 18
YP 16
GS 8/37
pH 8.0
FL 8.0
Cake 2/32
Pf Tr
Mf 0.55
Cl 650
Ca 40
Sd 1/4
Sol 16.8
Oil ---
H2O 83.2
LCM ---
6800

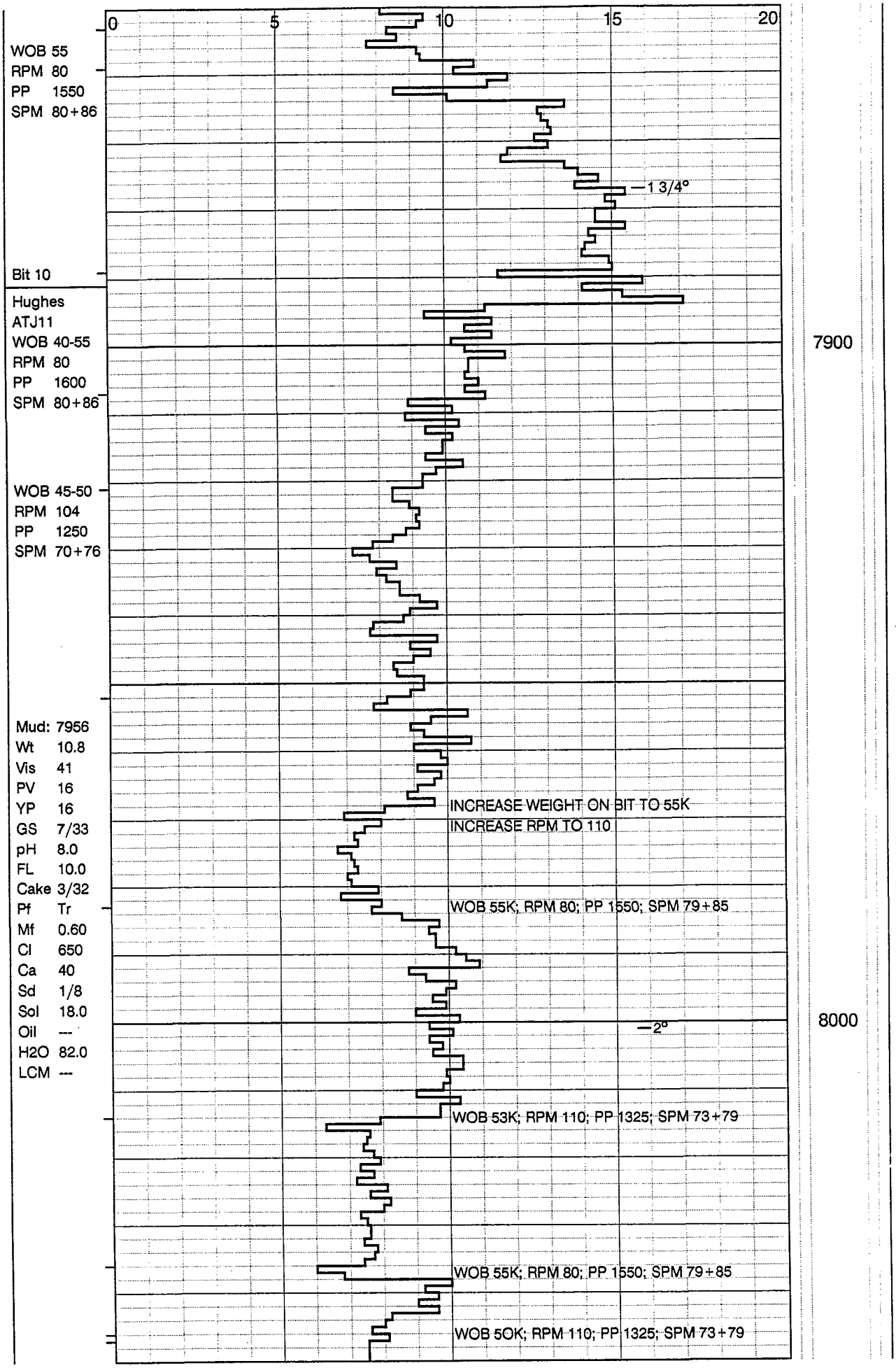

0
5
10
15
20
6900
WASH & REAM EVERY 15 FT
7000
WOB 55
RPM 80
PP 1575
SPM 82+88
Mud: 7015
Wt 10.6+
Vis 44
PV 19
YP 21
GS 10/35
pH 8.0
FL 9.2
Cake 3/32
Pf ---
Mf 0.55
Cl 650

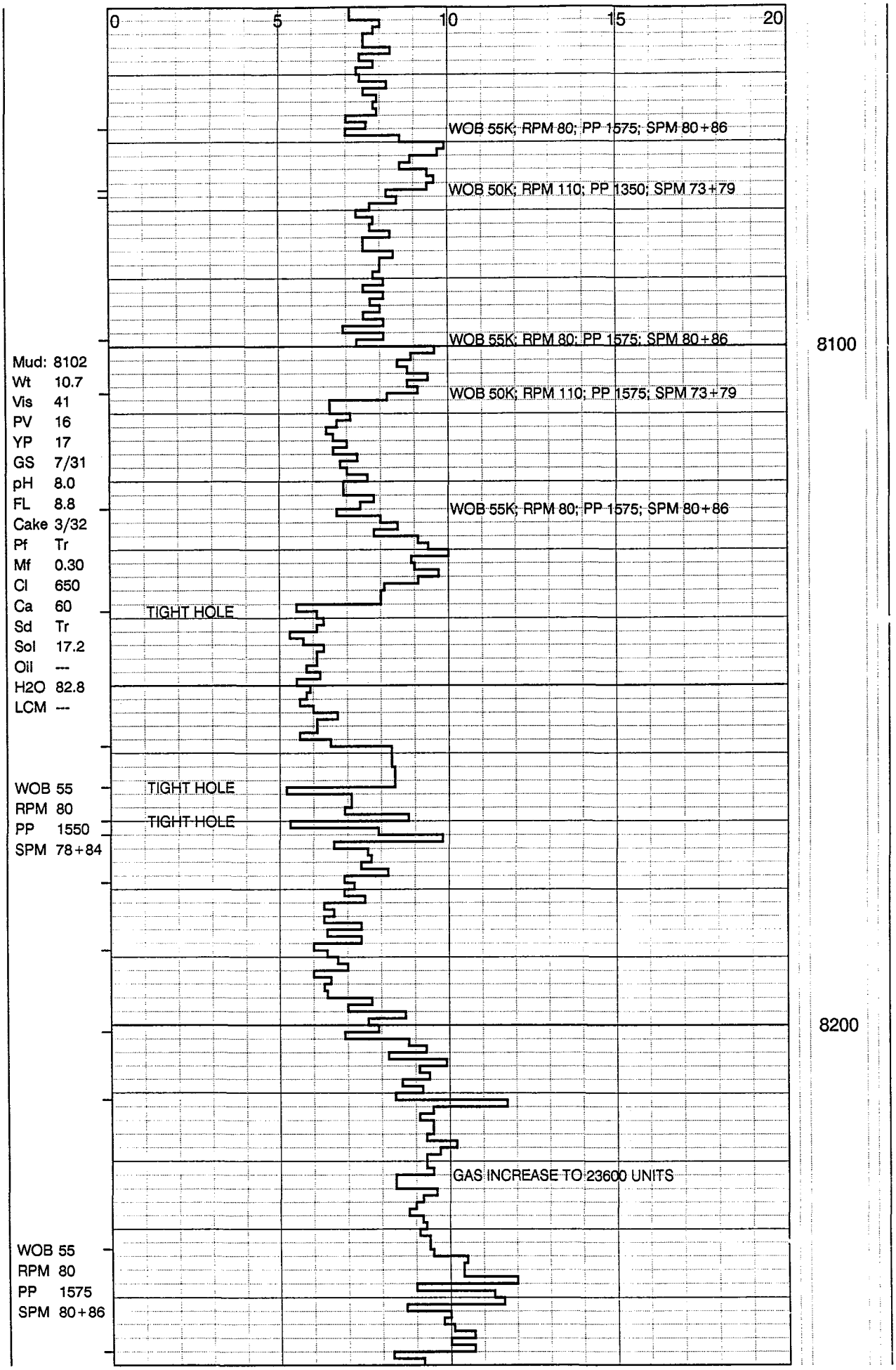

Ca 40
Sd 1/4
Sol 17.0
Oil ---
H2O 83.0
LCM ---
0
5
10
15
20
7100
7200
WOB 55
RPM 80
PP 1575
SPM 82+88

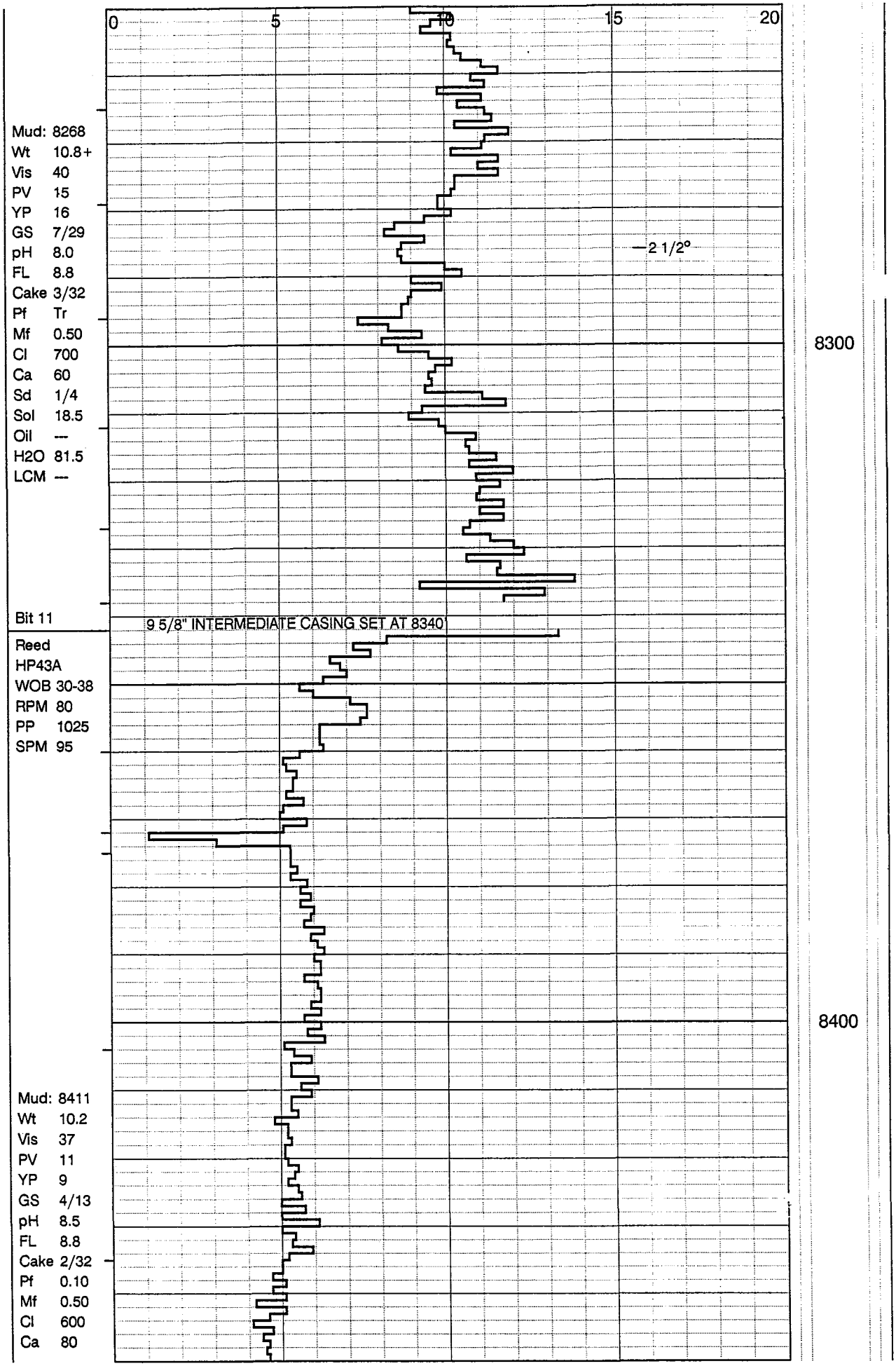

0
10
15
20
—2°
Mud: 7277
Wt 10.7
Vis 47
PV 19
YP 19
GS 9/36
pH 8.0
FL 8.0
Cake 3/32
Pf Tr
Mf 0.55
Cl 650
Ca 40
Sd 1/4
Sol 17.4
Oil —
H2O 82.6
LCM —
7300
7400
ADJUST BRAKES.
WOB 55
RPM 80
PP 1575
SPM 82+88

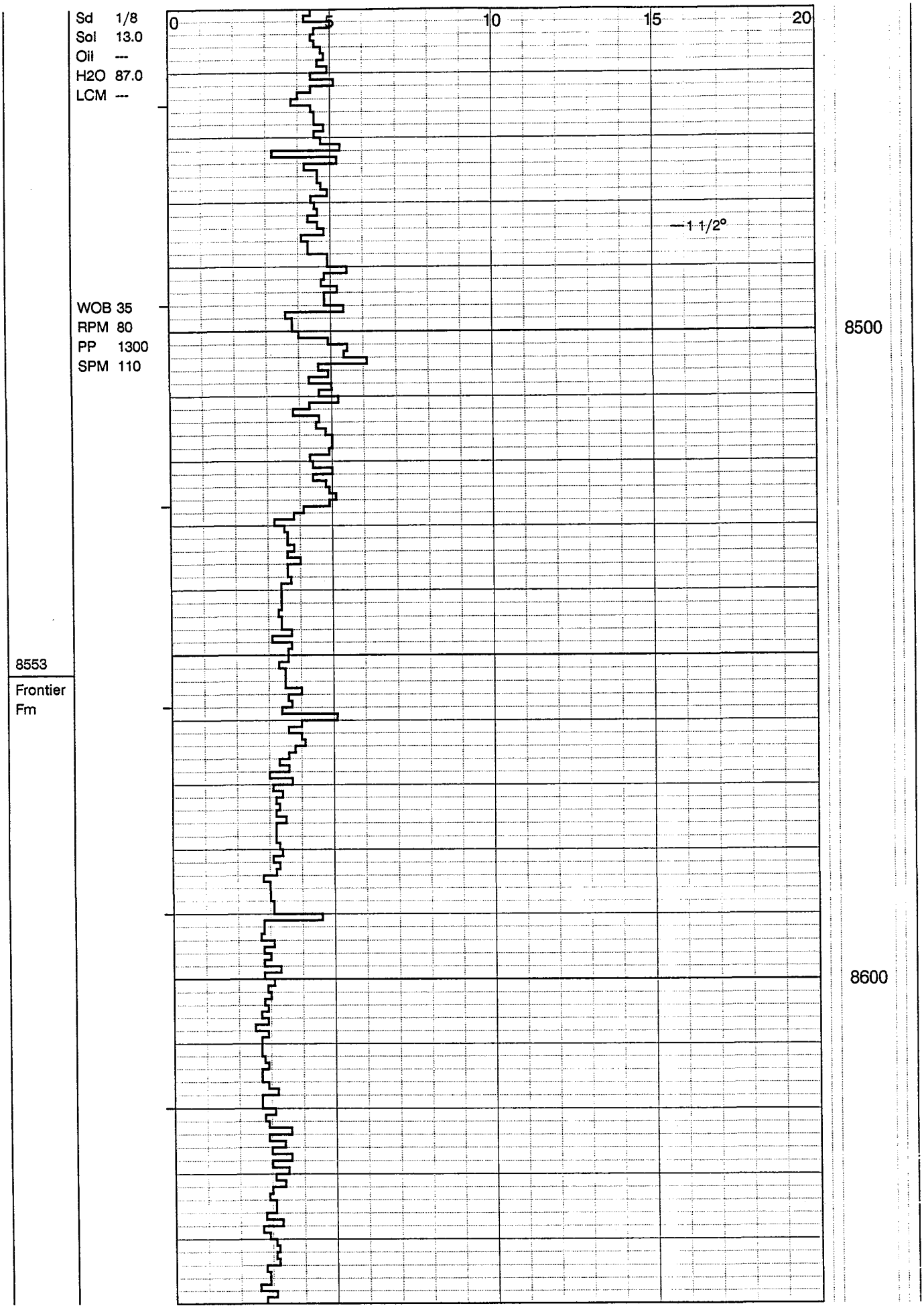

0
10
15
20
—2 1/4°
7500
7600
Bit 9
Smith
F15
WOB 55
RPM 80
PP 1575
SPM 81+87
Mud: 7506
Wt 10.7+
Vis 45
PV 19
YP 24
GS 6/25
pH 8.5
FL 7.2
Cake 3/32
Pf 0.05
Mf 0.75
Cl 650
Ca ---
Sd 1/4
Sol 17.8
Oil ---
H2O 82.2
LCM ---
7530–7539: 102 RPM & 1250 PSI PUMP PRESS
WOB 55
RPM 80
PP 1575
SPM 82+88
Mud: 7595
Wt 10.6+
Vis 42
PV 17
YP 19
GS 7/24
pH 8.0
FL 8.0
Cake 2/32
Pf 0.05
Mf 0.65
Cl 700
Ca 40
Sd 1/4
Sol 16.8
Oil ---
H2O 83.2
LCM ---
7532
Niobrara

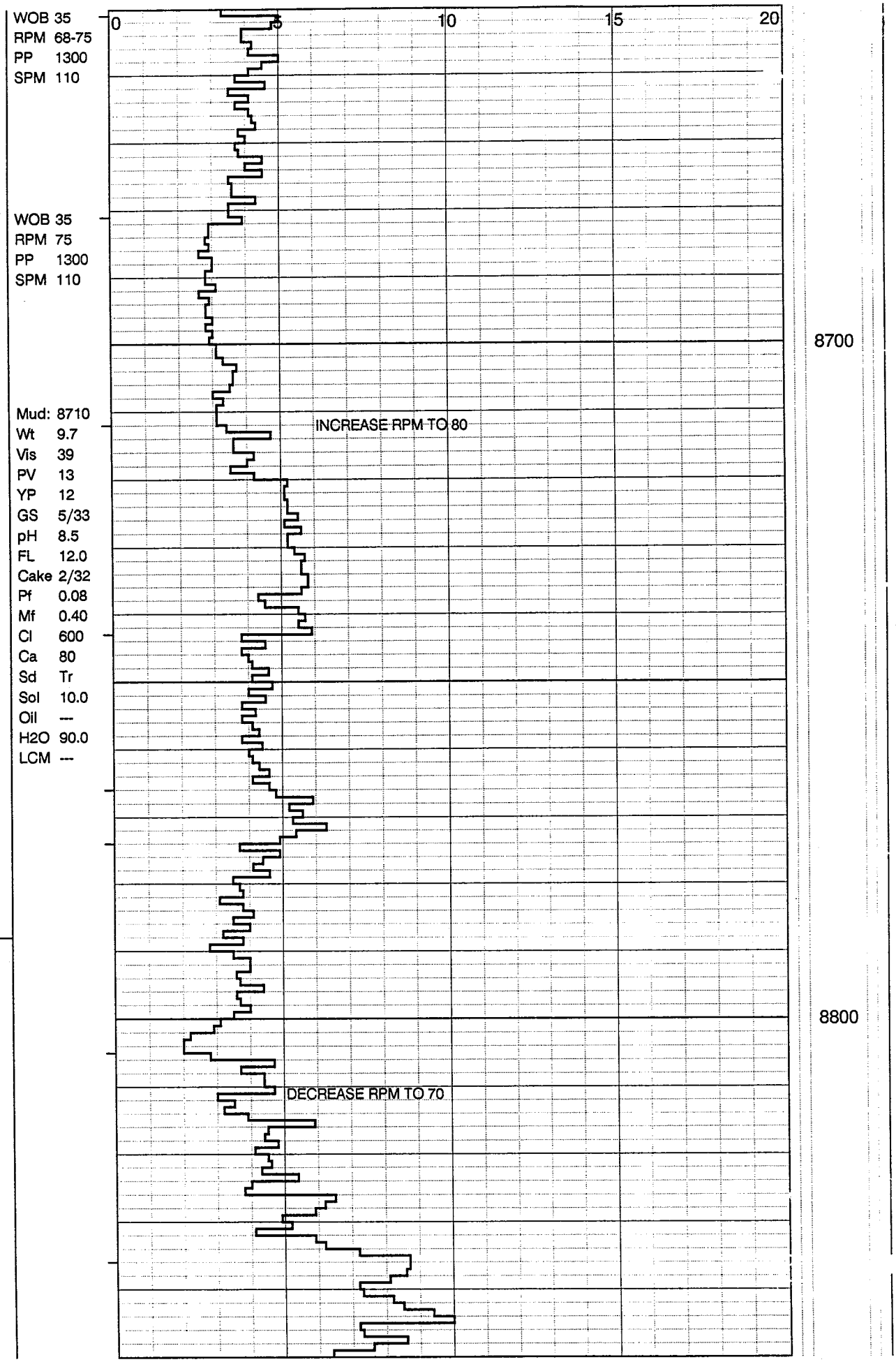

0
5
10
15
20
7674--7678: 110 RPM
WORK ON PUMP
7700
WOB 55
RPM 80
PP 1575
SPM 82+88
Mud: 7750
Wt 10.7
Vis 41
PV 17
YP 17
GS 6/22
pH 8.0
FL 8.4
Cake 2/32
Pf Tr
Mf 0.60
Cl 650
Ca 40
Sd 1/4
Sol 17.4
Oil ---
H2O 82.6
LCM ---
WORK ON PUMP
WORK ON PUMP
7800
WORK ON PUMP

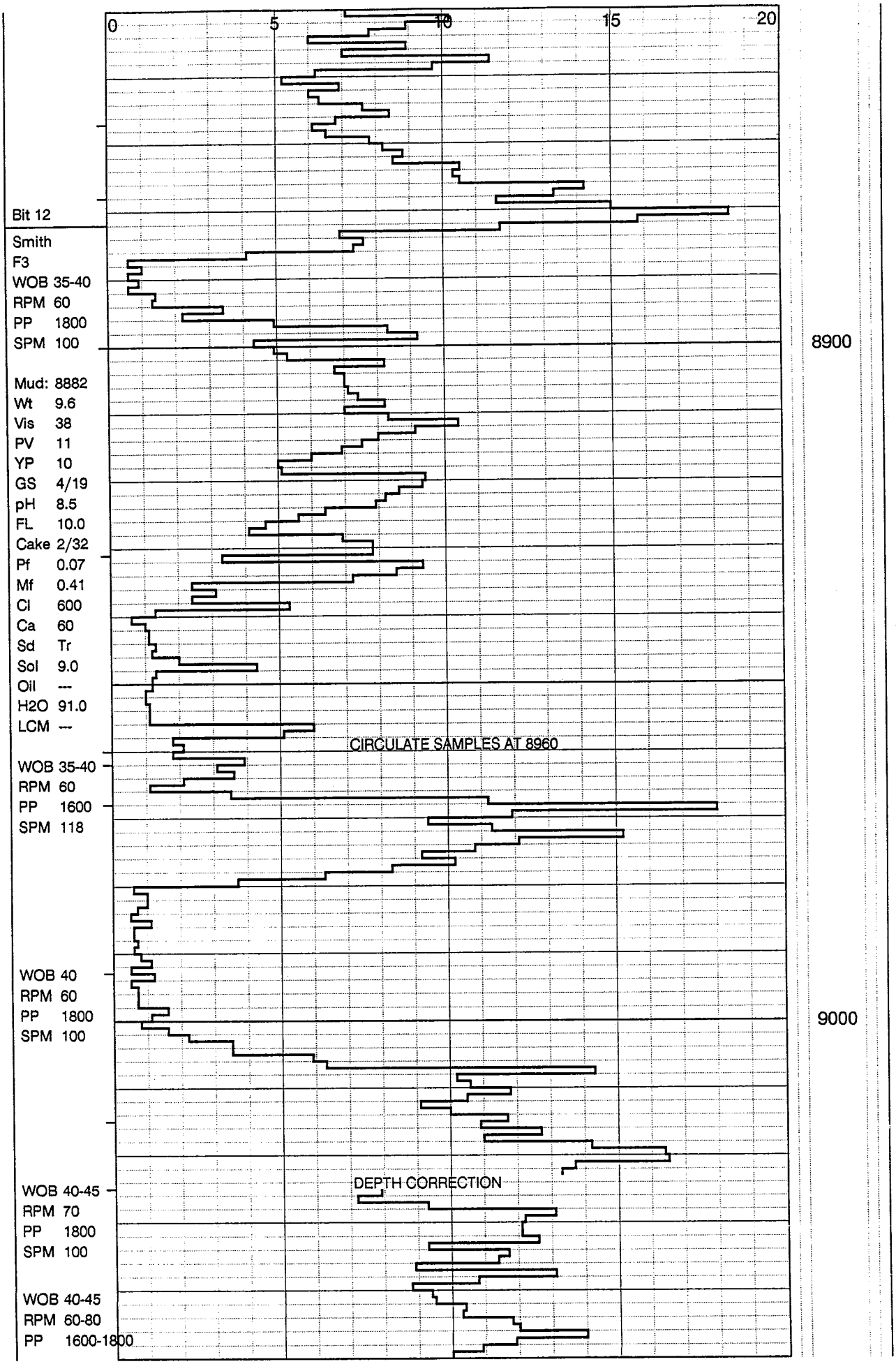

0
5
10
15
20
WOB 55
RPM 80
PP 1550
SPM 80+86
1 3/4°
Bit 10
Hughes
ATJ11
WOB 40-55
RPM 80
PP 1600
SPM 80+86
7900
WOB 45-50
RPM 104
PP 1250
SPM 70+76
Mud: 7956
Wt 10.8
Vis 41
PV 16
YP 16
GS 7/33
pH 8.0
FL 10.0
Cake 3/32
Pf Tr
Mf 0.60
Cl 650
Ca 40
Sd 1/8
Sol 18.0
Oil ---
H2O 82.0
LCM ---
INCREASE WEIGHT ON BIT TO 55K
INCREASE RPM TO 110
WOB 55K; RPM 80; PP 1550; SPM 79+85
2°
8000
WOB 53K; RPM 110; PP 1325; SPM 73+79
WOB 55K; RPM 80; PP 1550; SPM 79+85
WOB 5OK; RPM 110; PP 1325; SPM 73+79

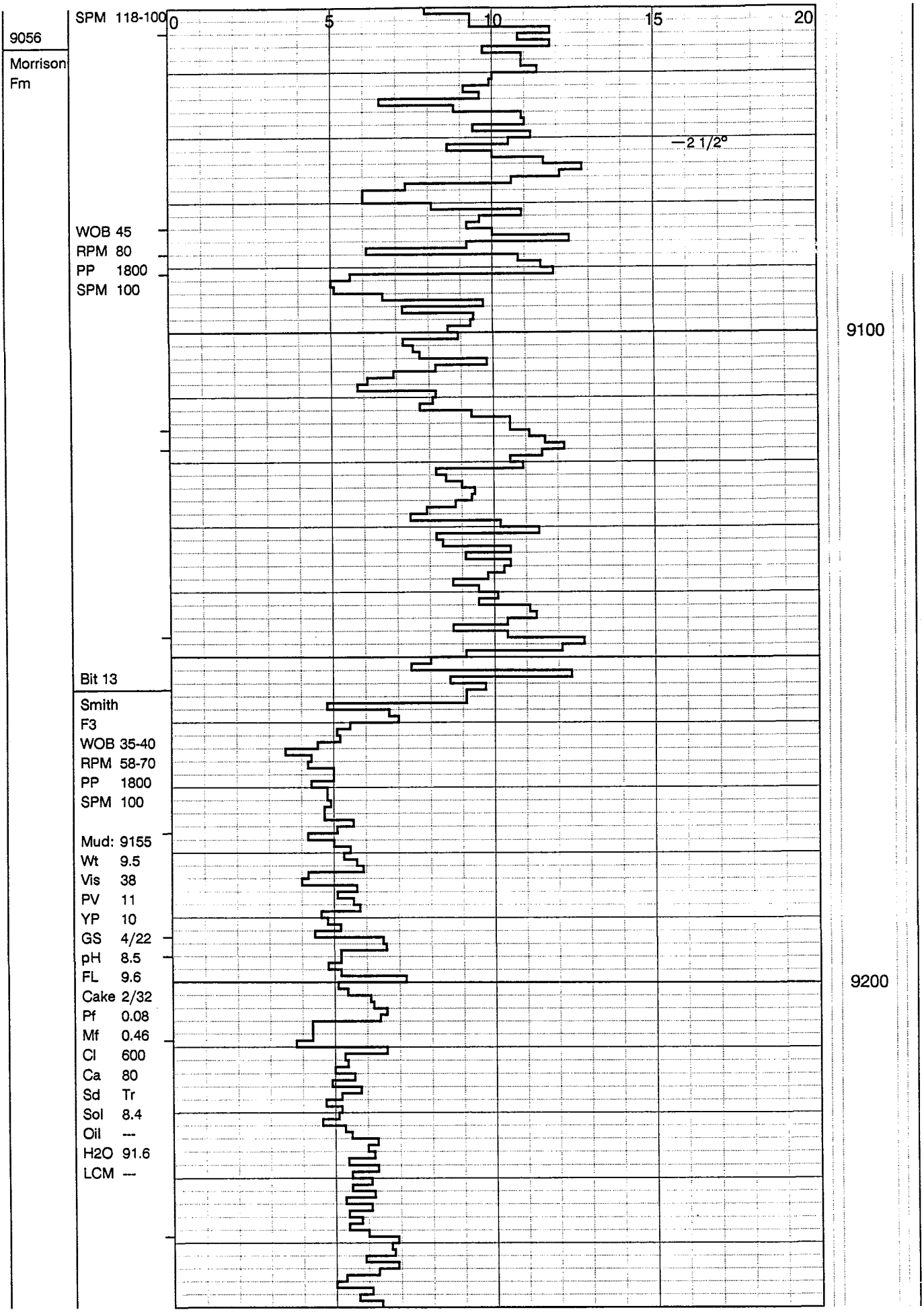

0
5
10
15
20
WOB 55K; RPM 80; PP 1575; SPM 80+86
WOB 50K; RPM 110; PP 1350; SPM 73+79
WOB 55K; RPM 80; PP 1575; SPM 80+86
WOB 50K; RPM 110; PP 1575; SPM 73+79
WOB 55K; RPM 80; PP 1575; SPM 80+86
8100
Mud: 8102
Wt 10.7
Vis 41
PV 16
YP 17
GS 7/31
pH 8.0
FL 8.8
Cake 3/32
Pf Tr
Mf 0.30
Cl 650
Ca 60
Sd Tr
Sol 17.2
Oil ---
H2O 82.8
LCM ---
TIGHT HOLE
WOB 55
RPM 80
PP 1550
SPM 78+84
TIGHT HOLE
TIGHT HOLE
8200
GAS INCREASE TO 23600 UNITS
WOB 55
RPM 80
PP 1575
SPM 80+86

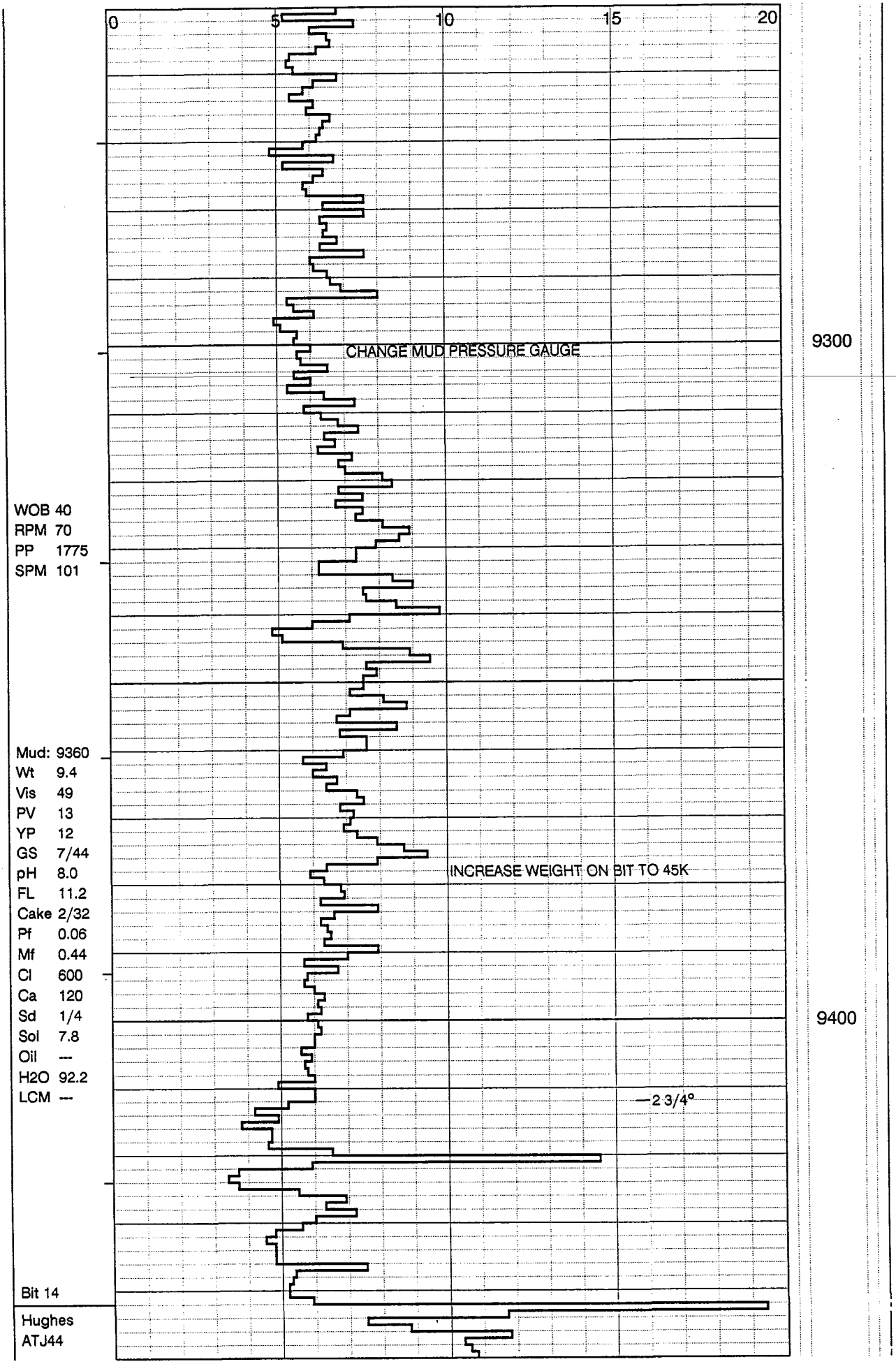

0
5
10
15
20
Mud: 8268
Wt 10.8+
Vis 40
PV 15
YP 16
GS 7/29
pH 8.0
FL 8.8
Cake 3/32
Pf Tr
Mf 0.50
Cl 700
Ca 60
Sd 1/4
Sol 18.5
Oil ---
H2O 81.5
LCM ---
2 1/2°
8300
Bit 11
9 5/8" INTERMEDIATE CASING SET AT 8340'
Reed
HP43A
WOB 30-38
RPM 80
PP 1025
SPM 95
8400
Mud: 8411
Wt 10.2
Vis 37
PV 11
YP 9
GS 4/13
pH 8.5
FL 8.8
Cake 2/32
Pf 0.10
Mf 0.50
Cl 600
Ca 80

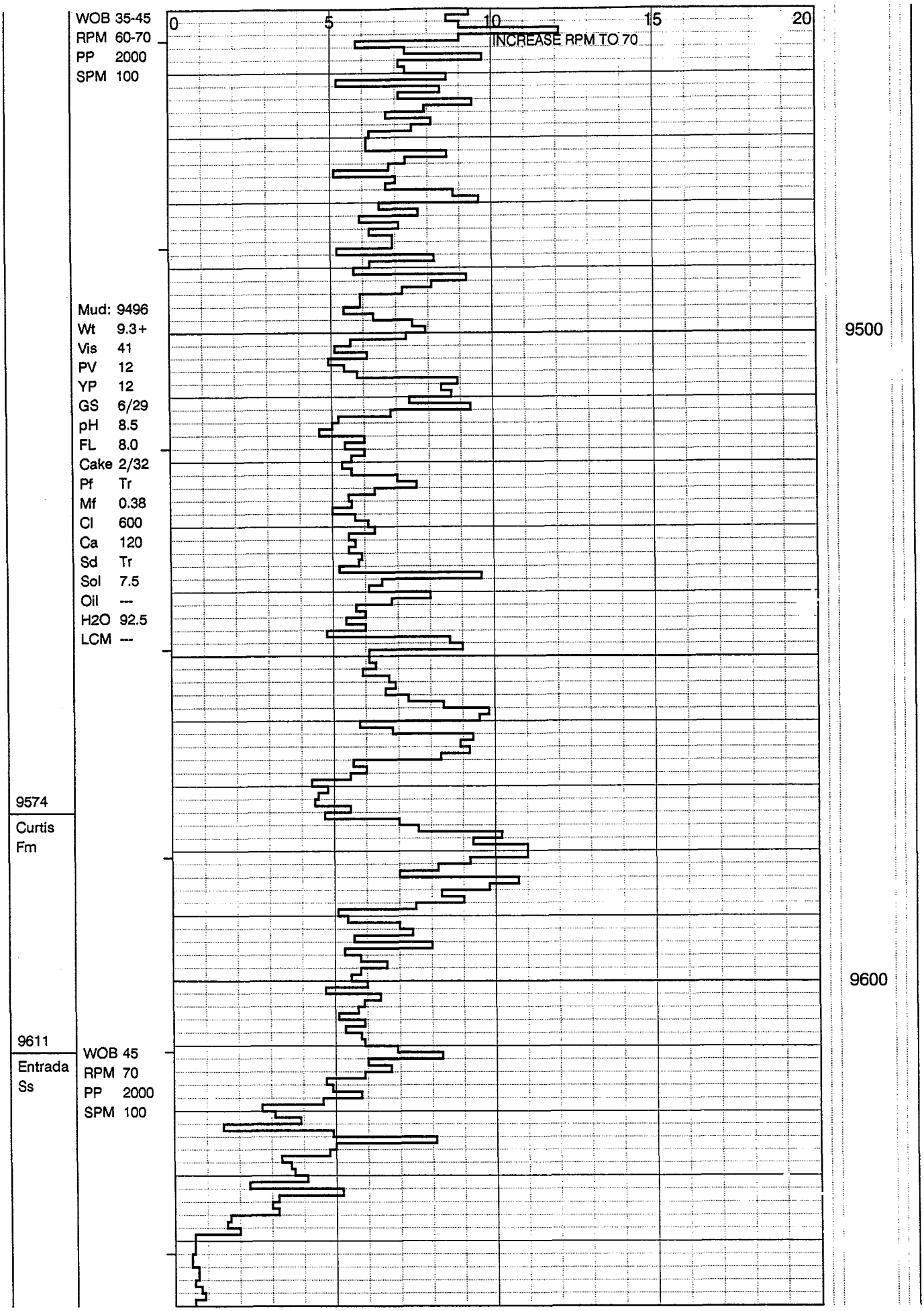

Sd 1/8
Sol 13.0
Oil ---
H2O 87.0
LCM ---
WOB 35
RPM 80
PP 1300
SPM 110
0
5
10
15
20
1 1/2°
8500
8553
Frontier
Fm
8600

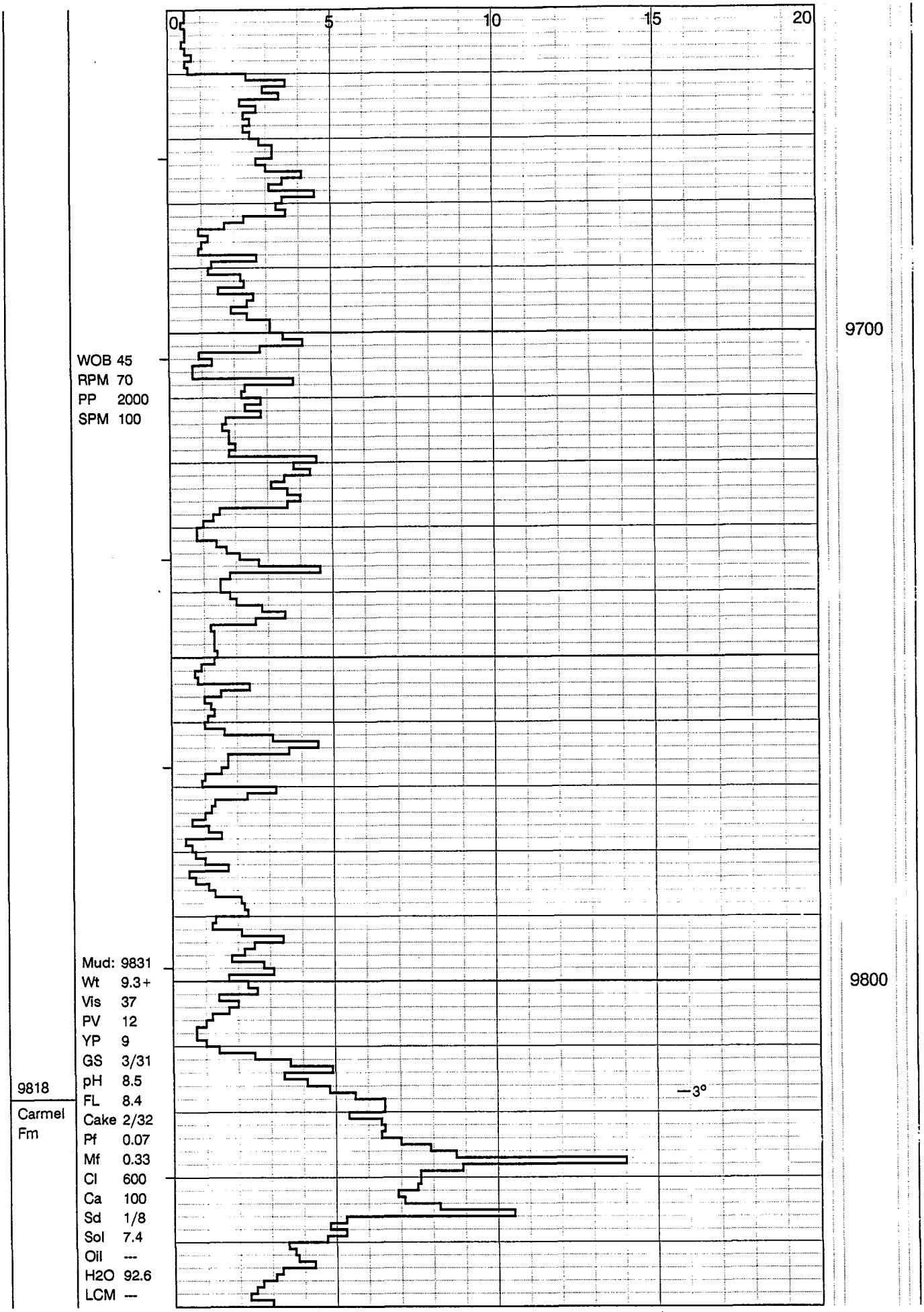

WOB 35
RPM 68-75
PP 1300
SPM 110
0
5
10
15
20
WOB 35
RPM 75
PP 1300
SPM 110
8700
Mud: 8710
Wt 9.7
Vis 39
PV 13
YP 12
GS 5/33
pH 8.5
FL 12.0
Cake 2/32
Pf 0.08
Mf 0.40
Cl 600
Ca 80
Sd Tr
Sol 10.0
Oil ---
H2O 90.0
LCM ---
INCREASE RPM TO 80
8788
Dakota
Ss
8800
DECREASE RPM TO 70

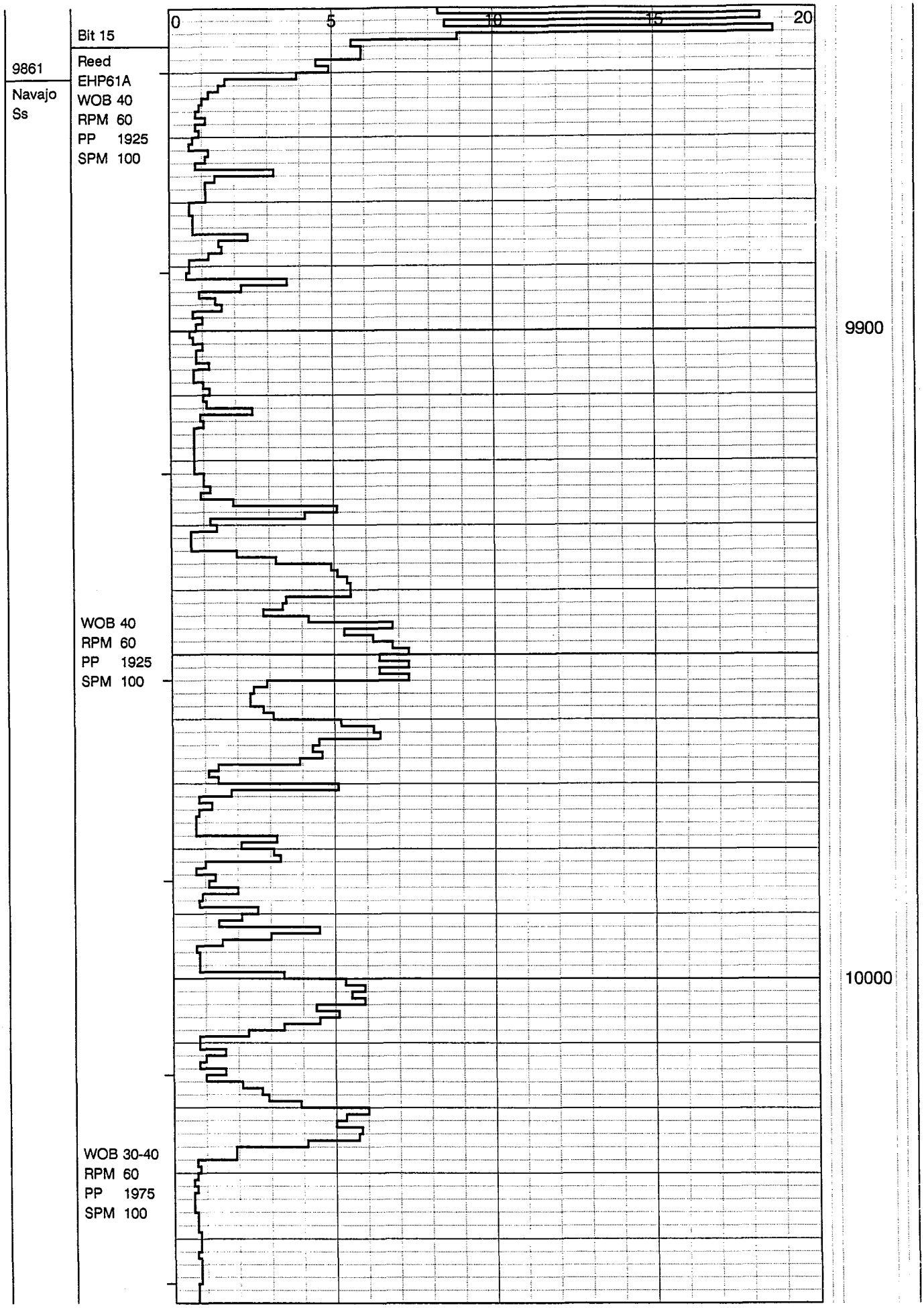

0
5
10
15
20
Bit 12
Smith
F3
WOB 35-40
RPM 60
PP 1800
SPM 100
Mud: 8882
Wt 9.6
Vis 38
PV 11
YP 10
GS 4/19
pH 8.5
FL 10.0
Cake 2/32
Pf 0.07
Mf 0.41
Cl 600
Ca 60
Sd Tr
Sol 9.0
Oil ---
H2O 91.0
LCM ---
8900
CIRCULATE SAMPLES AT 8960
WOB 35-40
RPM 60
PP 1600
SPM 118
WOB 40
RPM 60
PP 1800
SPM 100
9000
DEPTH CORRECTION
WOB 40-45
RPM 70
PP 1800
SPM 100
WOB 40-45
RPM 60-80
PP 1600-1800

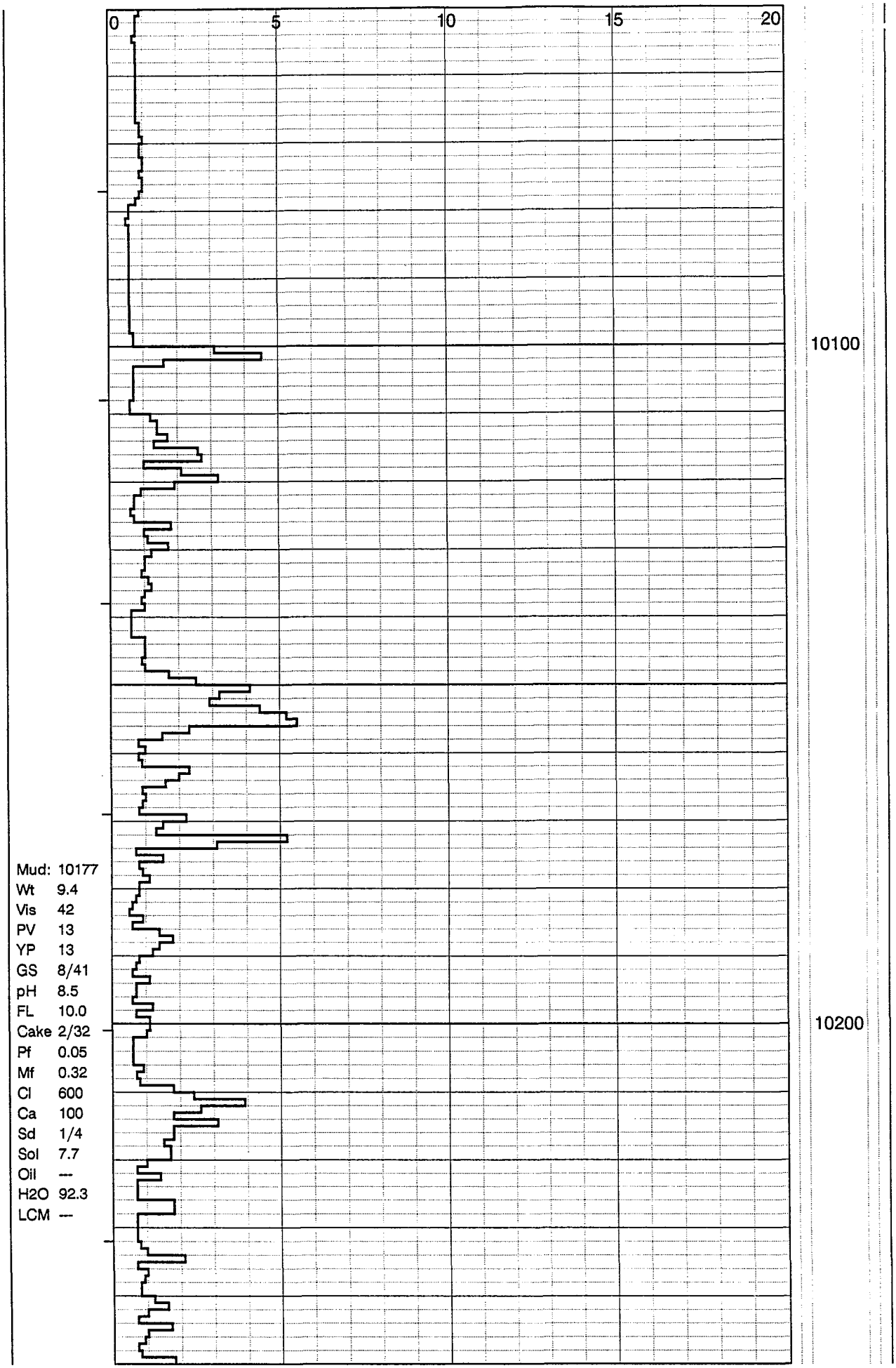

9056
Morrison Fm
SPM 118-100
0
5
10
15
20
−2 1/2°
WOB 45
RPM 80
PP 1800
SPM 100
9100
Bit 13
Smith
F3
WOB 35-40
RPM 58-70
PP 1800
SPM 100
Mud: 9155
Wt 9.5
Vis 38
PV 11
YP 10
GS 4/22
pH 8.5
FL 9.6
Cake 2/32
Pf 0.08
Mf 0.46
Cl 600
Ca 80
Sd Tr
Sol 8.4
Oil ---
H2O 91.6
LCM ---
9200

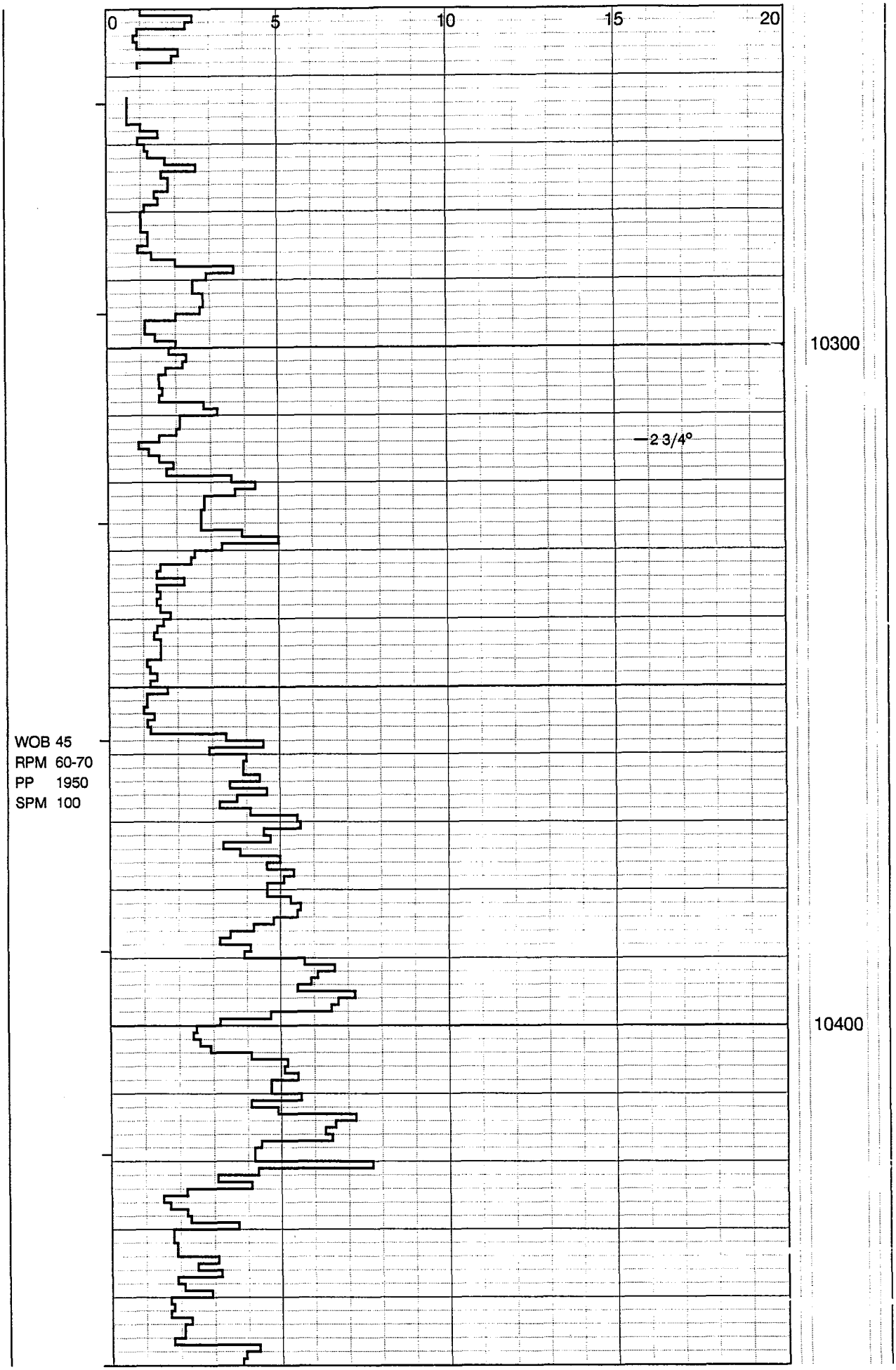

0
5
10
15
20
9300
CHANGE MUD PRESSURE GAUGE
WOB 40
RPM 70
PP 1775
SPM 101
Mud: 9360
Wt 9.4
Vis 49
PV 13
YP 12
GS 7/44
pH 8.0
FL 11.2
Cake 2/32
Pf 0.06
Mf 0.44
Cl 600
Ca 120
Sd 1/4
Sol 7.8
Oil ---
H2O 92.2
LCM ---
INCREASE WEIGHT ON BIT TO 45K
9400
2 3/4°
Bit 14
Hughes
ATJ44

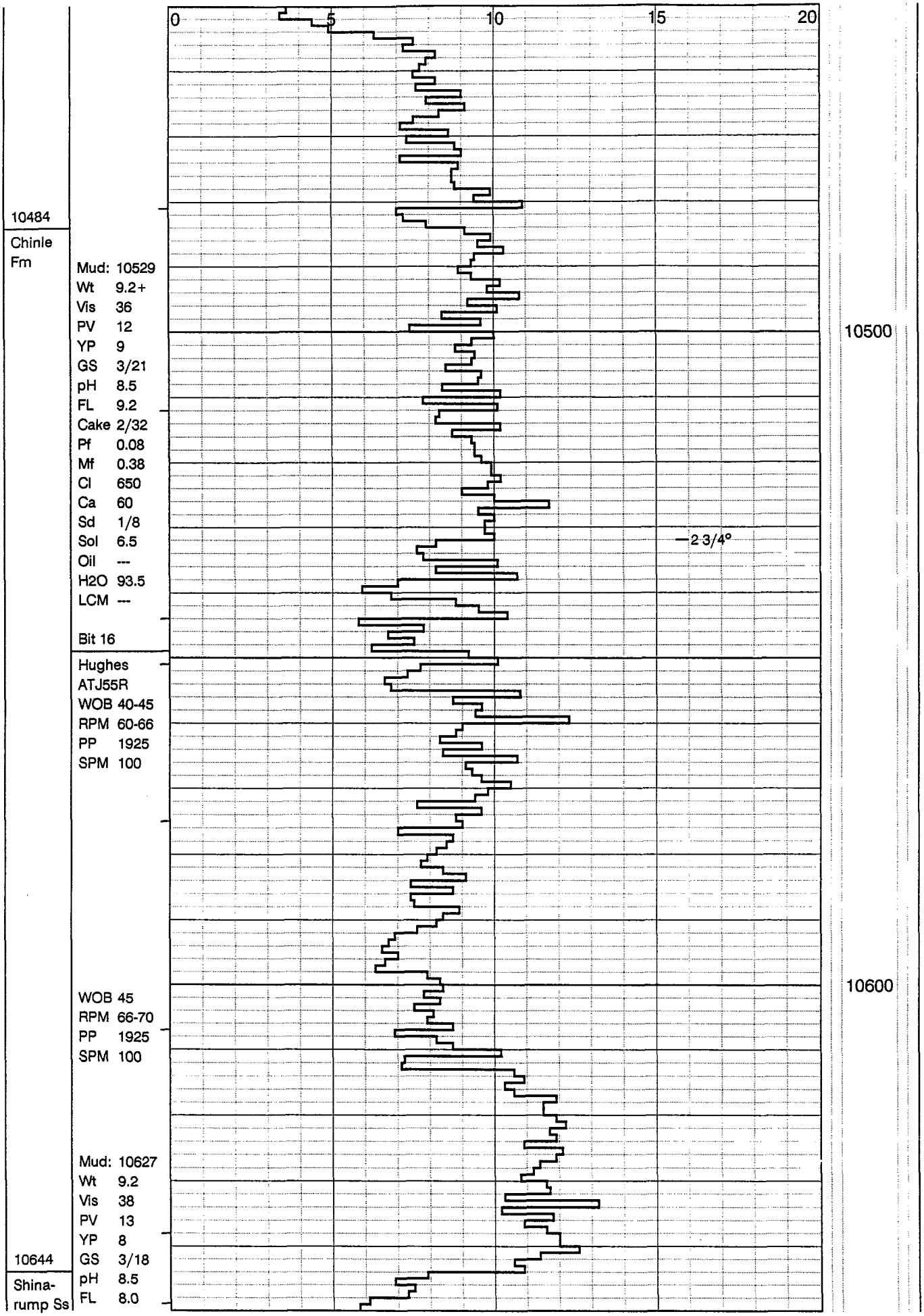

WOB 35-45
RPM 60-70
PP 2000
SPM 100
0
5
10
15
20
INCREASE RPM TO 70
Mud: 9496
Wt 9.3+
Vis 41
PV 12
YP 12
GS 6/29
pH 8.5
FL 8.0
Cake 2/32
Pf Tr
Mf 0.38
Cl 600
Ca 120
Sd Tr
Sol 7.5
Oil ---
H2O 92.5
LCM ---
9500
9574
Curtis Fm
9600
9611
Entrada Ss
WOB 45
RPM 70
PP 2000
SPM 100

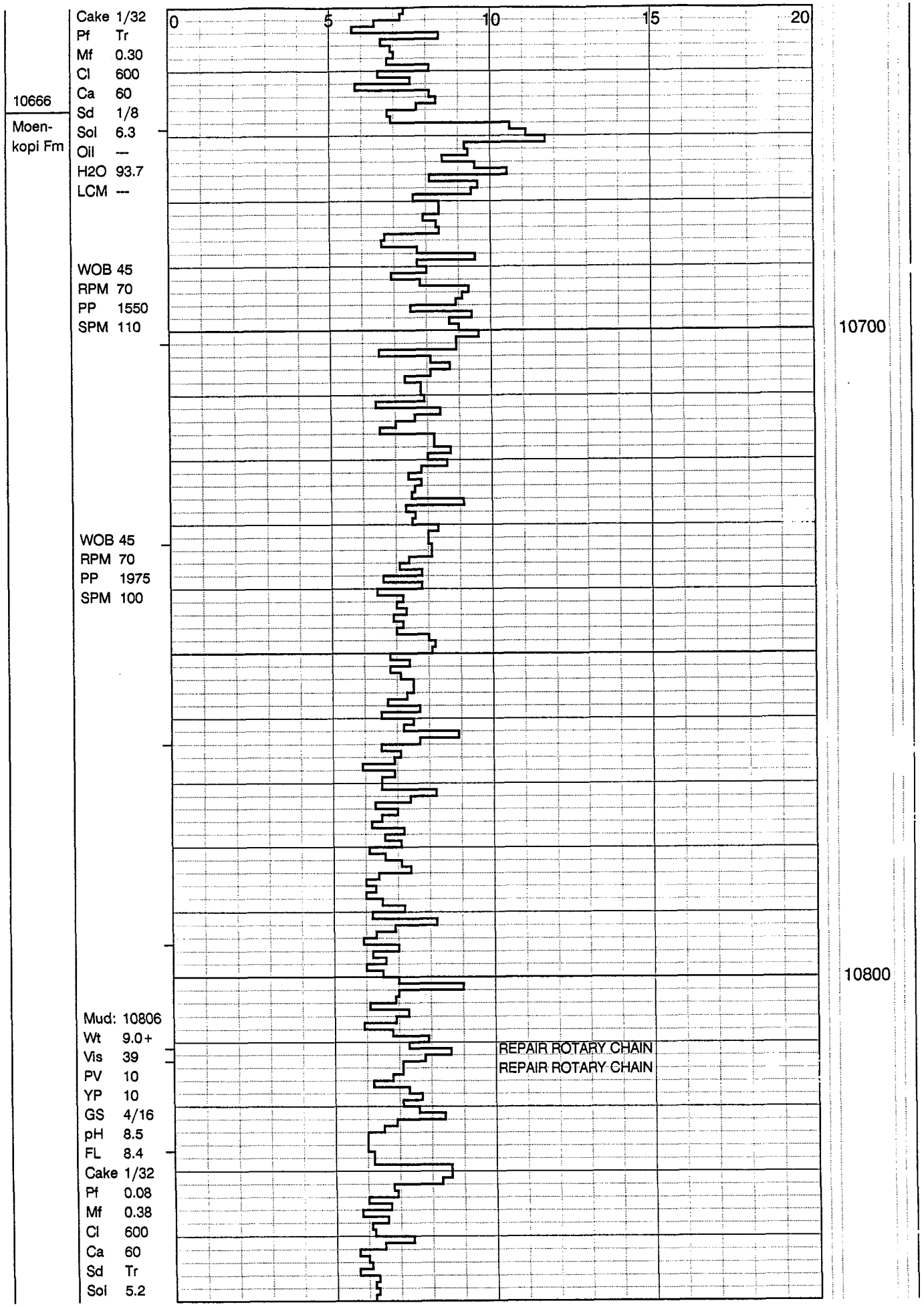

0
5
10
15
20
9700
9800
WOB 45
RPM 70
PP 2000
SPM 100
Mud: 9831
Wt 9.3+
Vis 37
PV 12
YP 9
GS 3/31
pH 8.5
FL 8.4
Cake 2/32
Pf 0.07
Mf 0.33
Cl 600
Ca 100
Sd 1/8
Sol 7.4
Oil ---
H2O 92.6
LCM ---
9818
Carmel
Fm
3°

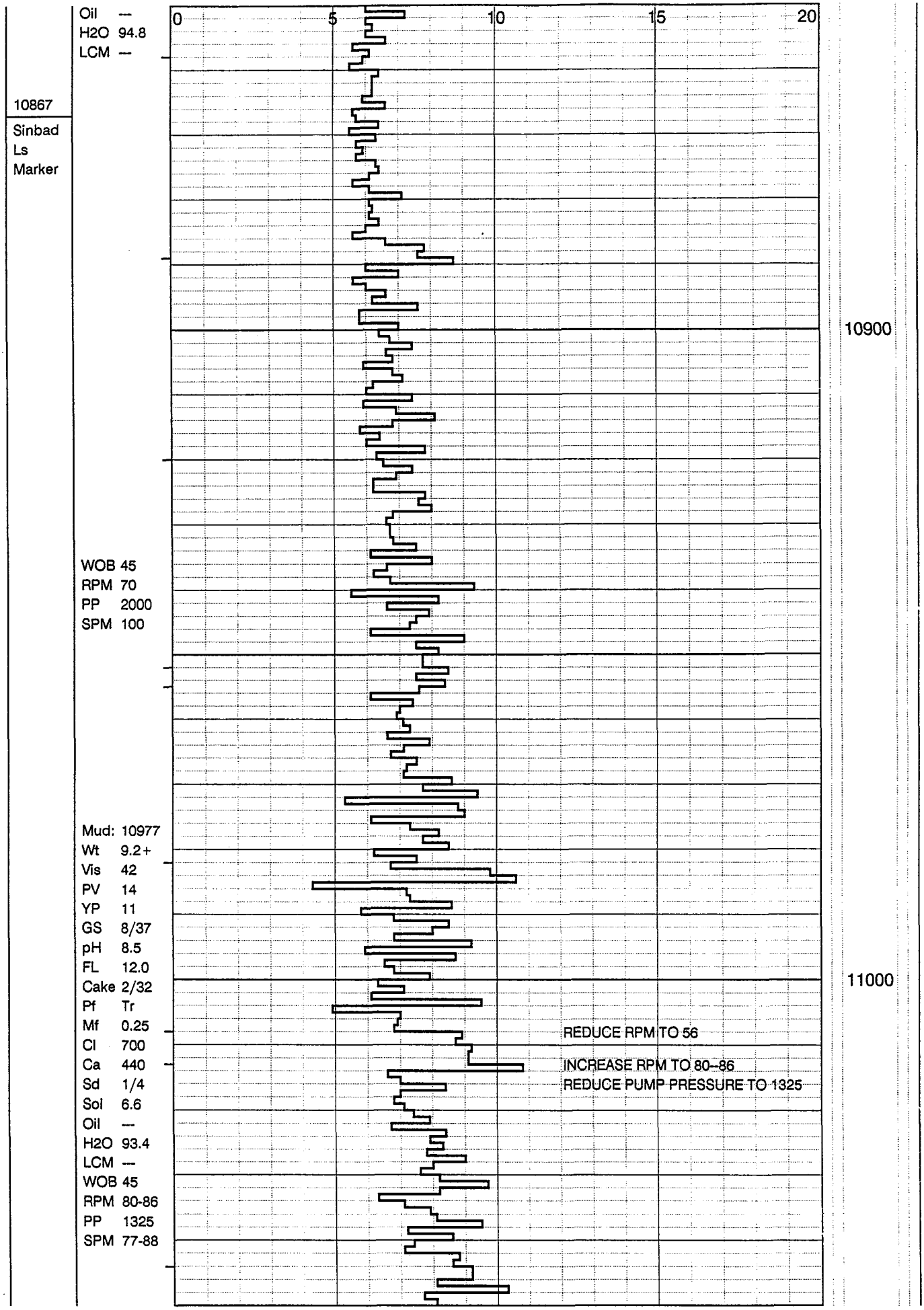

9861
Navajo
Ss
Bit 15
Reed
EHP61A
WOB 40
RPM 60
PP 1925
SPM 100
0
5
10
15
20
9900
WOB 40
RPM 60
PP 1925
SPM 100
10000
WOB 30-40
RPM 60
PP 1975
SPM 100

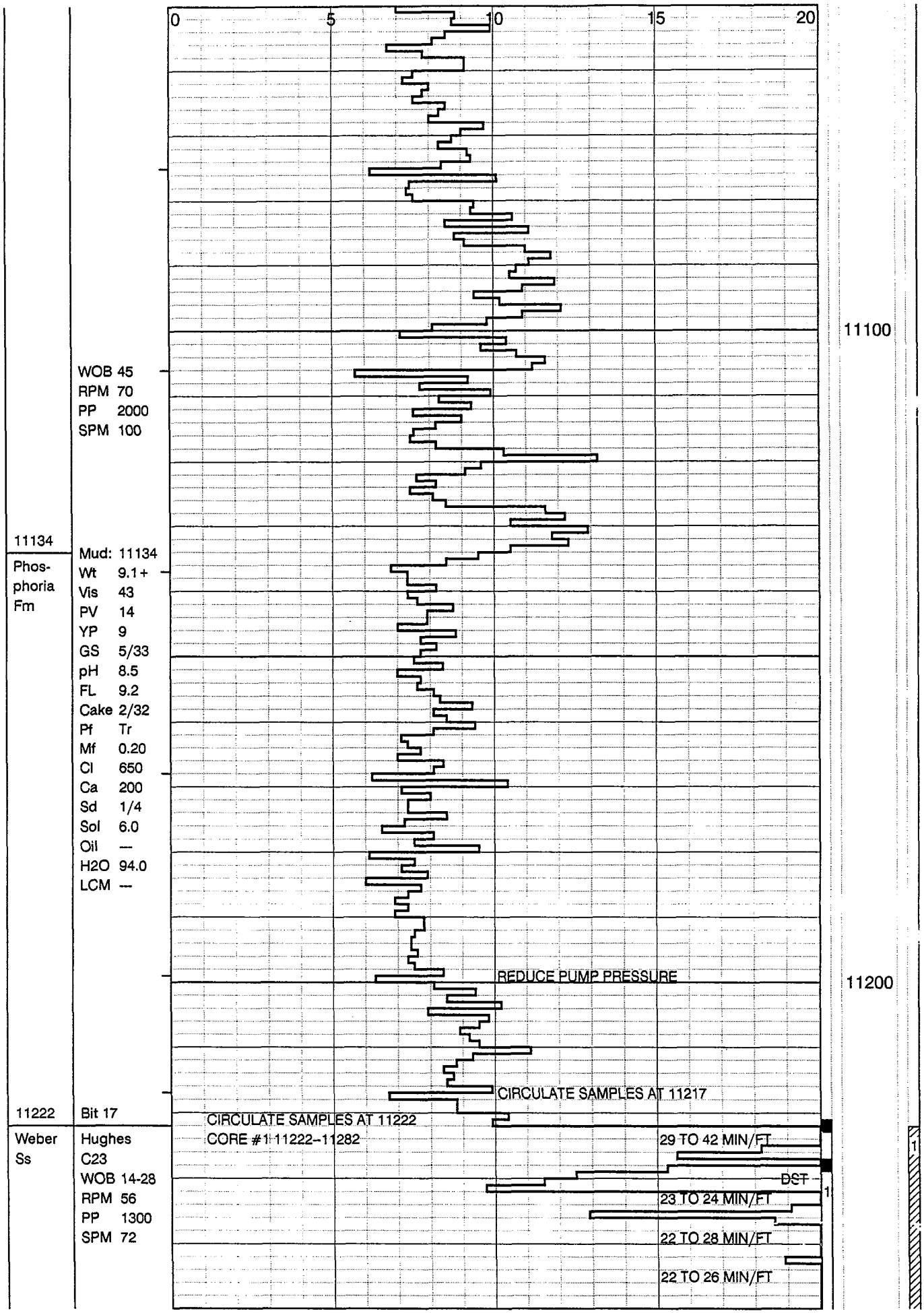

0
5
10
15
20
10100
10200
Mud: 10177
Wt 9.4
Vis 42
PV 13
YP 13
GS 8/41
pH 8.5
FL 10.0
Cake 2/32
Pf 0.05
Mf 0.32
Cl 600
Ca 100
Sd 1/4
Sol 7.7
Oil ---
H2O 92.3
LCM ---

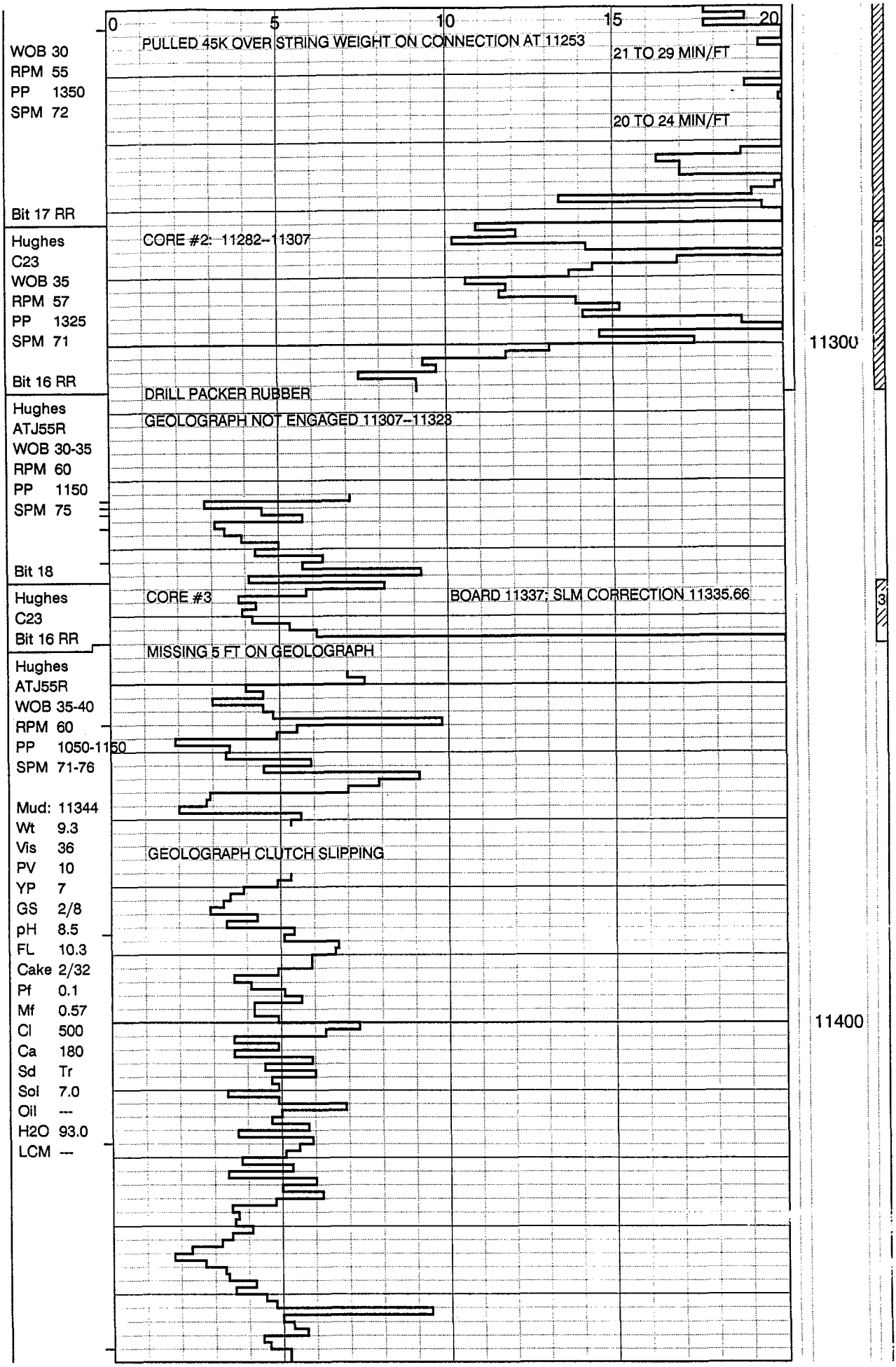

0
5
10
15
20
10300
2 3/4°
WOB 45
RPM 60-70
PP 1950
SPM 100
10400

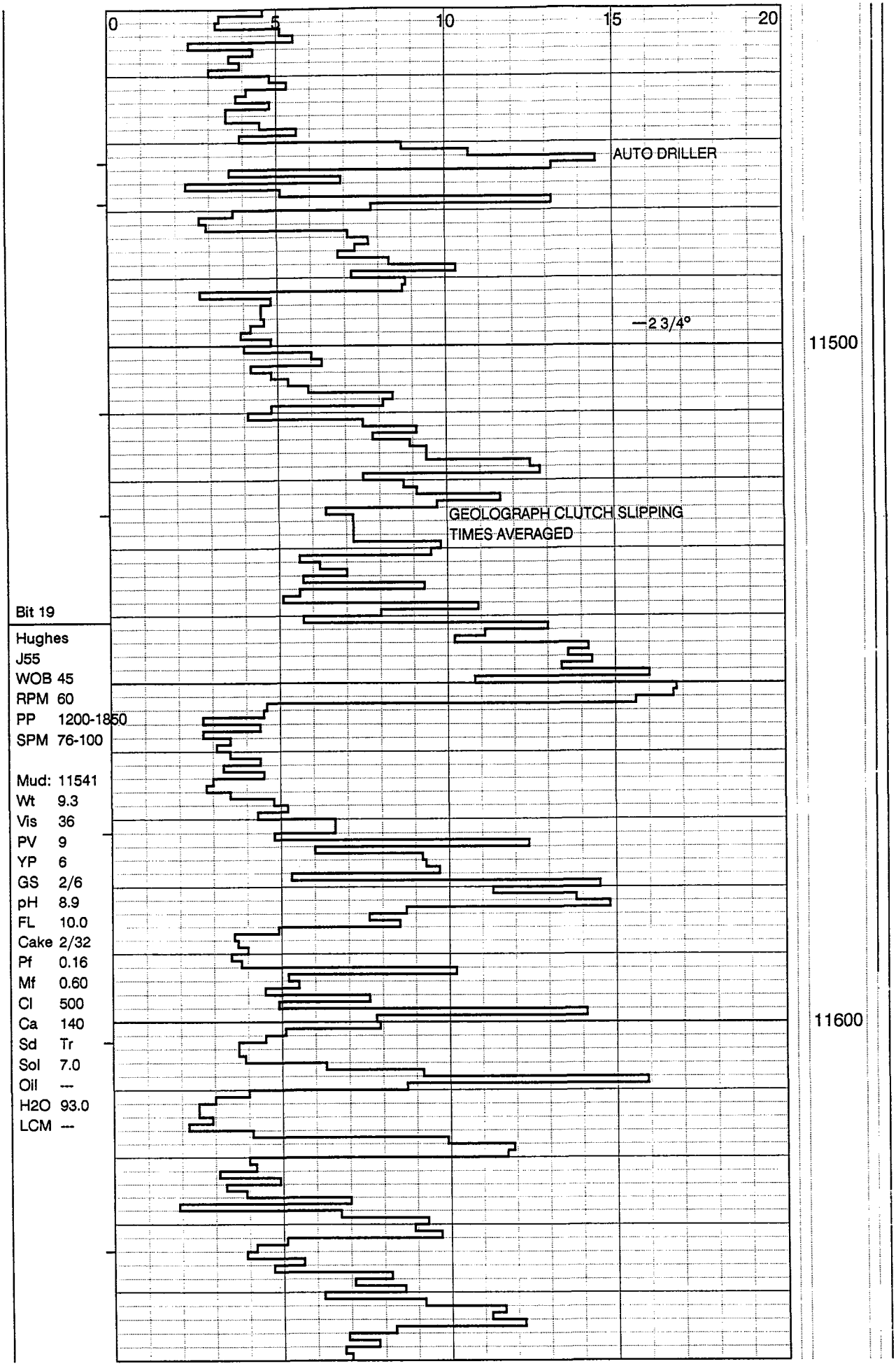

0
5
10
15
20
10484
Chinle Fm
Mud: 10529
Wt 9.2+
Vis 36
PV 12
YP 9
GS 3/21
pH 8.5
FL 9.2
Cake 2/32
Pf 0.08
Mf 0.38
Cl 650
Ca 60
Sd 1/8
Sol 6.5
Oil ---
H2O 93.5
LCM ---
Bit 16
Hughes
ATJ55R
WOB 40-45
RPM 60-66
PP 1925
SPM 100
WOB 45
RPM 66-70
PP 1925
SPM 100
Mud: 10627
Wt 9.2
Vis 38
PV 13
YP 8
GS 3/18
pH 8.5
FL 8.0
10644
Shina-rump Ss
—2 3/4°
10500
10600

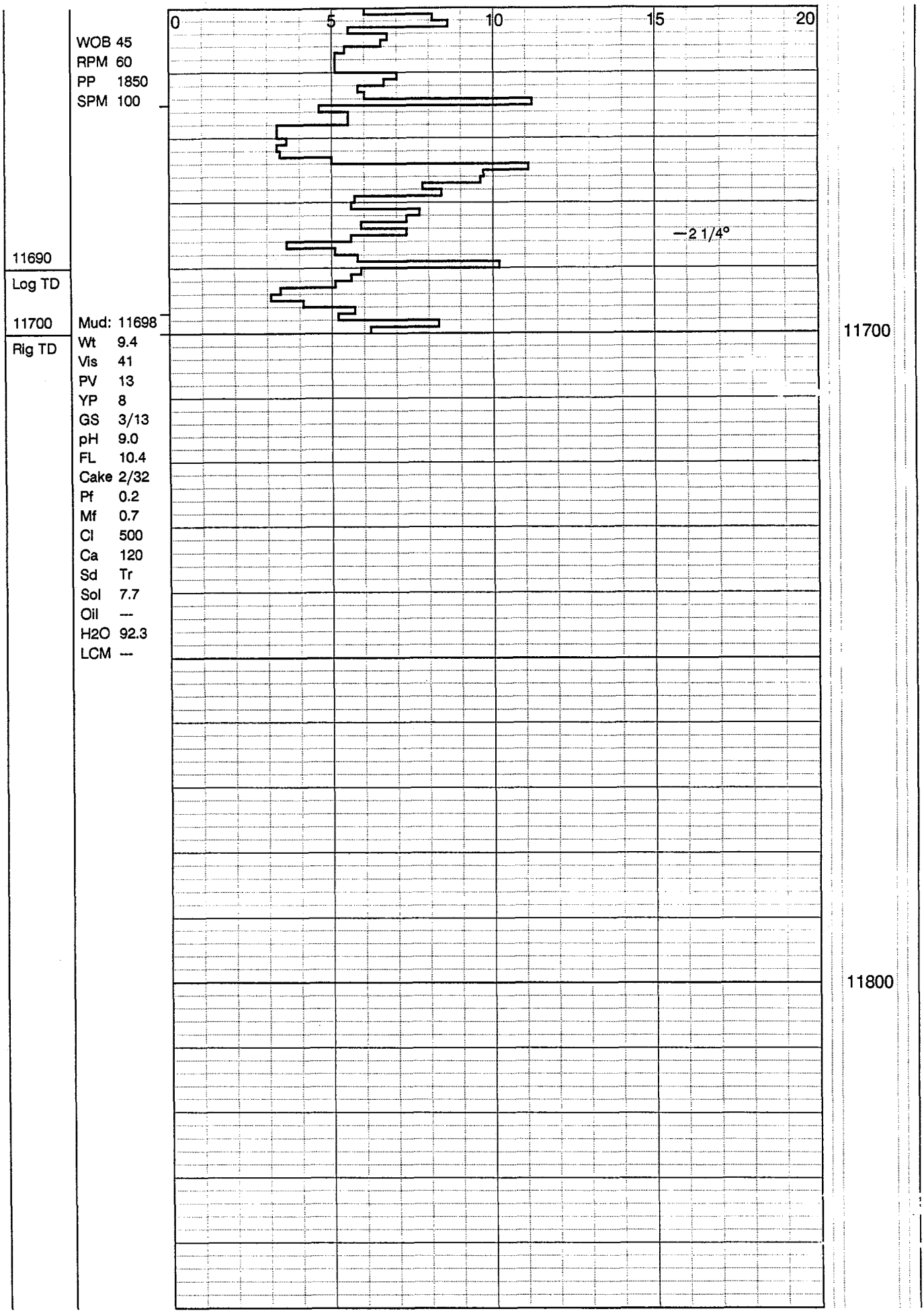

10666
Moen-
kopi Fm
Cake 1/32
Pf Tr
Mf 0.30
Cl 600
Ca 60
Sd 1/8
Sol 6.3
Oil —
H2O 93.7
LCM —
WOB 45
RPM 70
PP 1550
SPM 110
WOB 45
RPM 70
PP 1975
SPM 100
Mud: 10806
Wt 9.0+
Vis 39
PV 10
YP 10
GS 4/16
pH 8.5
FL 8.4
Cake 1/32
Pf 0.08
Mf 0.38
Cl 600
Ca 60
Sd Tr
Sol 5.2
0
5
10
15
20
10700
10800
REPAIR ROTARY CHAIN
REPAIR ROTARY CHAIN


Oil ---
H2O 94.8
LCM ---
10867
Sinbad
Ls
Marker
0
5
10
15
20
10900
WOB 45
RPM 70
PP 2000
SPM 100
Mud: 10977
Wt 9.2+
Vis 42
PV 14
YP 11
GS 8/37
pH 8.5
FL 12.0
Cake 2/32
Pf Tr
Mf 0.25
Cl 700
Ca 440
Sd 1/4
Sol 6.6
Oil ---
H2O 93.4
LCM ---
WOB 45
RPM 80-86
PP 1325
SPM 77-88
11000
REDUCE RPM TO 56
INCREASE RPM TO 80--86
REDUCE PUMP PRESSURE TO 1325


0
5
10
15
20
11100
WOB 45
RPM 70
PP 2000
SPM 100
11134
Mud: 11134
Phos-
phoria
Fm
Wt 9.1+
Vis 43
PV 14
YP 9
GS 5/33
pH 8.5
FL 9.2
Cake 2/32
Pf Tr
Mf 0.20
Cl 650
Ca 200
Sd 1/4
Sol 6.0
Oil —
H2O 94.0
LCM —
11200
REDUCE PUMP PRESSURE
CIRCULATE SAMPLES AT 11217
11222
Bit 17
CIRCULATE SAMPLES AT 11222
CORE #1 11222–11282
Weber
Ss
Hughes
C23
WOB 14-28
RPM 56
PP 1300
SPM 72
29 TO 42 MIN/FT
DST
23 TO 24 MIN/FT
22 TO 28 MIN/FT
22 TO 26 MIN/FT


0
5
10
15
20
PULLED 45K OVER STRING WEIGHT ON CONNECTION AT 11253
21 TO 29 MIN/FT
20 TO 24 MIN/FT
WOB 30
RPM 55
PP 1350
SPM 72
Bit 17 RR
Hughes
C23
WOB 35
RPM 57
PP 1325
SPM 71
Bit 16 RR
CORE #2: 11282--11307
DRILL PACKER RUBBER
GEOLOGRAPH NOT ENGAGED 11307--11328
Hughes
ATJ55R
WOB 30-35
RPM 60
PP 1150
SPM 75
Bit 18
CORE #3
BOARD 11337; SLM CORRECTION 11335.66
Hughes
C23
Bit 16 RR
MISSING 5 FT ON GEOLOGRAPH
Hughes
ATJ55R
WOB 35-40
RPM 60
PP 1050-1150
SPM 71-76
Mud: 11344
Wt 9.3
Vis 36
PV 10
YP 7
GS 2/8
pH 8.5
FL 10.3
Cake 2/32
Pf 0.1
Mf 0.57
Cl 500
Ca 180
Sd Tr
Sol 7.0
Oil ---
H2O 93.0
LCM ---
GEOLOGRAPH CLUTCH SLIPPING
11300
11400
2
3


0
5
10
15
20
AUTO DRILLER
2 3/4°
11500
GEOLOGRAPH CLUTCH SLIPPING
TIMES AVERAGED
Bit 19
Hughes
J55
WOB 45
RPM 60
PP 1200-1850
SPM 76-100
Mud: 11541
Wt 9.3
Vis 36
PV 9
YP 6
GS 2/6
pH 8.9
FL 10.0
Cake 2/32
Pf 0.16
Mf 0.60
Cl 500
Ca 140
Sd Tr
Sol 7.0
Oil ---
H2O 93.0
LCM ---
11600


0
5
10
15
20
WOB 45
RPM 60
PP 1850
SPM 100
2 1/4°
11690
Log TD
11700
Rig TD
Mud: 11698
Wt 9.4
Vis 41
PV 13
YP 8
GS 3/13
pH 9.0
FL 10.4
Cake 2/32
Pf 0.2
Mf 0.7
Cl 500
Ca 120
Sd Tr
Sol 7.7
Oil ---
H2O 92.3
LCM ---
11700
11800

ANSCHUTZ

TEXAS CREEK 14-22

Sec. 22, T. 11S, R. 25E

UINTAH CO., UTAH


ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH
11222 TO 11229
Box 1 of 13
WET

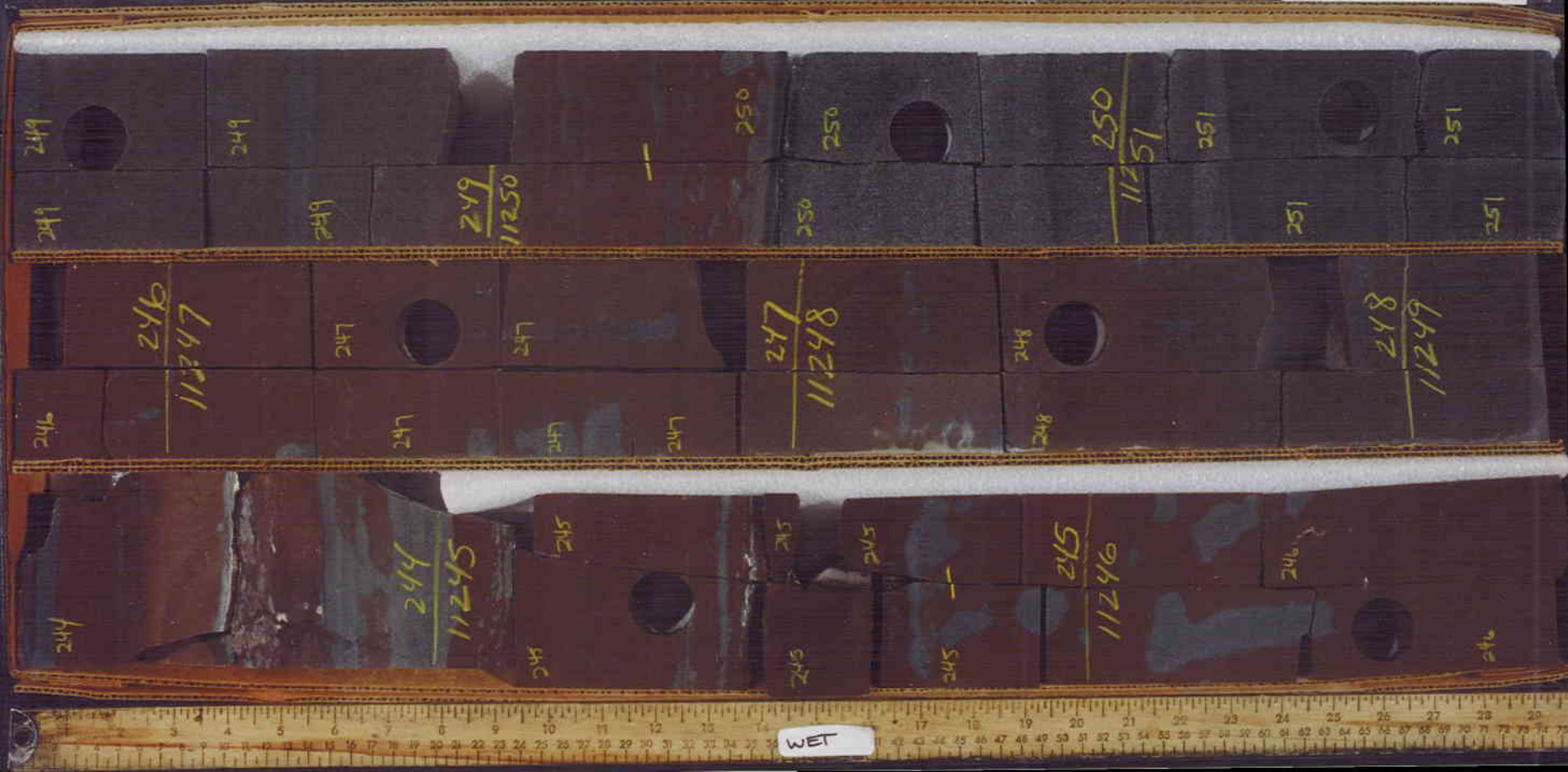
ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH

11229 TO 11237
Box 2 of 13


ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH
11237 TO 11244
Box 3 of 13
241
11242
242
242
242
11242
243
243
243
11244
242
239
239
11240
240
240
240
11240
241
241
241
242
237
237
237
237
11238
238
238
238
238
11239
237
237
239
239
WET

ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH

11244 TO 11251
Box 4 of 13




Anschutz - Texas Creek 14-22
Sec. 22 T. 11 S R. 25 E
Uintah CO., Utah
11251 TO 11259
Box 5 of 13
WET

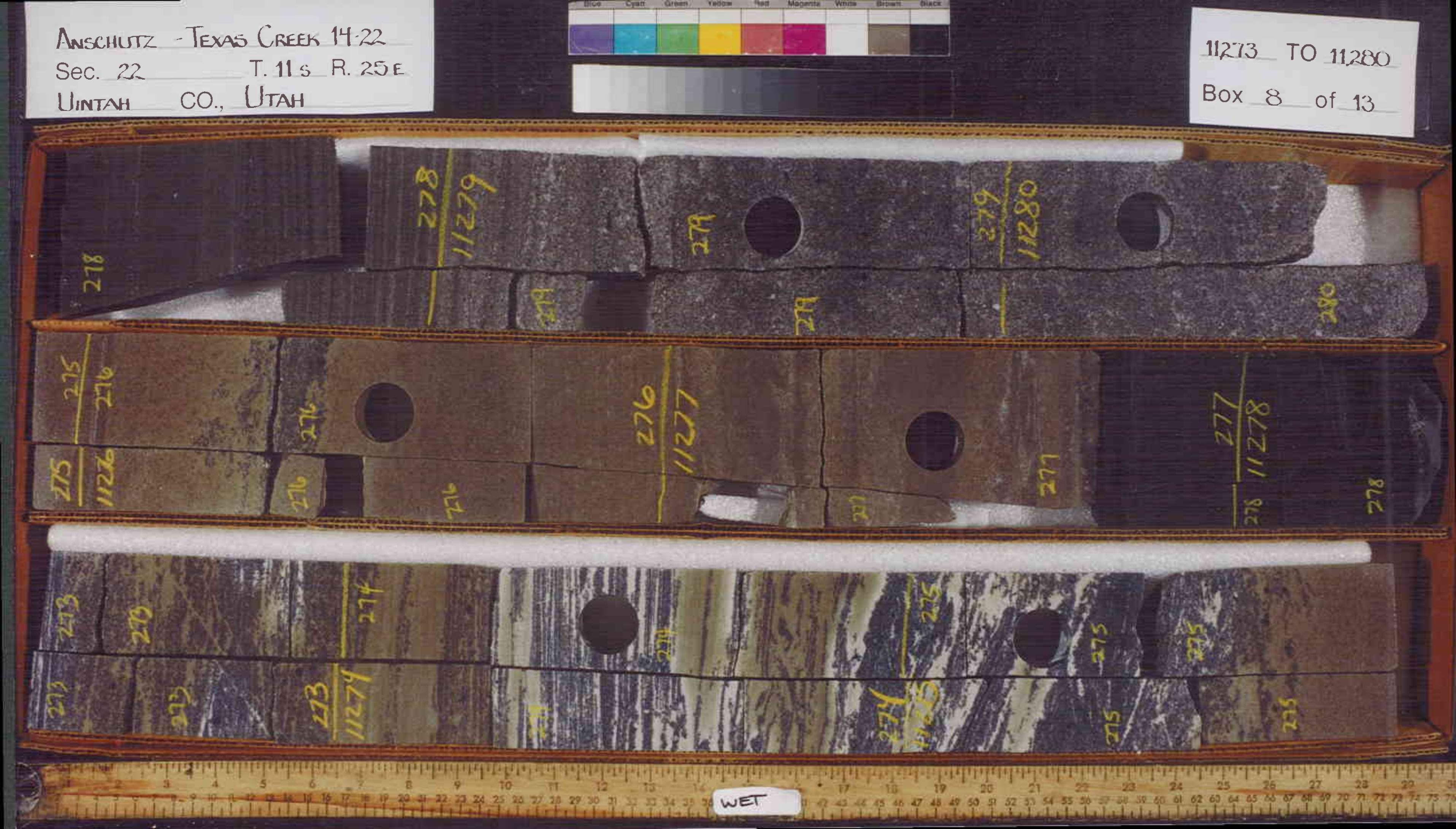
ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH

11259 TO 11266
Box 6 of 13

WET

ANSCHUTZ - TEXAS CREEK 11-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH

11266 TO 11273
Box 7 of 13


ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH
11273 TO 11280
Box 8 of 13
WET


ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S. R. 25 E
UINTAH CO., UTAH
11280 TO 11287
Box 9 of 13
CORE 2
WET


ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH
11287 TO 11294
Box 10 of 13
WET

ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH

11294 TO 11301
Box 11 of 13


ANSCHUTZ - TEXAS CREEK 14-22
Sec. 22 T. 11 S R. 25 E
UINTAH CO., UTAH
11301-306 TO 11335-337
Box 12 of 13
CORE 3
11335
335
11336
336
11337
11305
11306
11307
11303
WET

Anschutz - Texas Creek 14-22
Sec. 22 T. 11 S R. 25 E
Uintah CO., Utah

11,337 TO 11,342
Box 13 of 13

Anschutz Exploration
Corporation

FAX

Date: 2-7-96

Number of pages including cover sheet: 2

To: Lisha Cordova

Phone: 801-538-5296

Fax phone: ~~801-363-7658~~

CC:

From: Don Day

Phone: (303) 298-1000

Fax phone: (303) 299-1518

REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR Anschutz Exploration Corporation
OPERATOR ACCT. NO. N7940

ADDRESS 555 17th Street; Suite 2400
Denver, CO 80202
(303) 298-1000

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION QQ	SC	TP	RG	COUNTY	SPUD DATE	EFFECTIVE DATE
A	99999	11876	43-047-32693	Texas Creek 14-22	SESW	22	11S	25E	Uintah	7/19/95	1/1/96

WELL 1 COMMENTS:
Well is shut-in. Flowline and marketing discussions in progress. Completed in Wasatch formation.

WELL 2 COMMENTS:
Entity added 2-7-96. Lee.

WELL 3 COMMENTS:

WELL 4 COMMENTS:

WELL 5 COMMENTS:

ACTION CODES (See instructions on back of form)
A - Establish new entity for new well (single well only)
B - Add new well to existing entity (group or unit well)
C - Re-assign well from one existing entity to another existing entity
D - Re-assign well from one existing entity to a new entity
E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)

Donald R. Day
Signature

Engr. Mgr.-RMD
Title

2/7/96
Date

Phone No. (303) 298-1000

THE ANSCHUTZ CORPORATION

2400 ANACONDA TOWER · 555 SEVENTEENTH STREET · DENVER, COLORADO 80202 · 303-298-1000 · FAX 303-298-8881

September 22, 1997

John Baza
Utah State Engineer
Division of Oil, Gas and Mining
PO Box 145801
Salt Lake City, Utah 84108

RE: Plug and Abandonment
Texas Creek #14-22
API No. 43-047-32693
Section 22, T11S, R25E
Uintah County, Utah

Dear John:

Attached is a wellbore diagram of Anschutz Corporation's Texas Creek #14-22 well located in the SESW Sec 22, T11S, R25E Uintah County, Utah. Anschutz plans to abandon the subject well with the following procedure, if acceptable by the state.

1) Rig up service unit, load hole with fresh water mixed with corrosion inhibitor and oxygen scavenger.
2) Pull tubing and packer. Lay down packer.
3) Run in hole with open ended tubing.
4) Spot cement plugs as follows:
    1. 2450'-1950' (185 sacks)
    2. 840'-740' (37 sacks)
    3. 20'-4' (6 sacks)
    4. Fill any casing annulus voids with cement.
5) Cut casing 4' below ground level.
6) Weld on plate and dry hole marker.
7) Back fill cellar.
8) Clean and restore location.

Please review the wellbore diagram and advise if this is acceptable. If so, I will prepare a Sundry Notice to that effect and submit it for your approval. If not, please advise as to what additional work/procedures you would like done.

The Dakota perforations are isolated from the Niobrara perforations by:

1) The Baker 'F' packer set at 8770' with a plug in it and two sacks of sand dumped on top.
2) Also, when the cement plug was set over the Niobrara, 15 sacks of cement were squeezed out the Niobrara perforations.

I felt this was enough isolation between the two zones to warrant not drilling out the cement plug already in place and setting an additional plug on top of the packer. To do so, would entail having to squeeze the Wasatch perforations, then drill them out in order to drill out the cement over the Niobrara. That is, if we could get a good squeeze on the Wasatch being a depleted shallow gas zone.

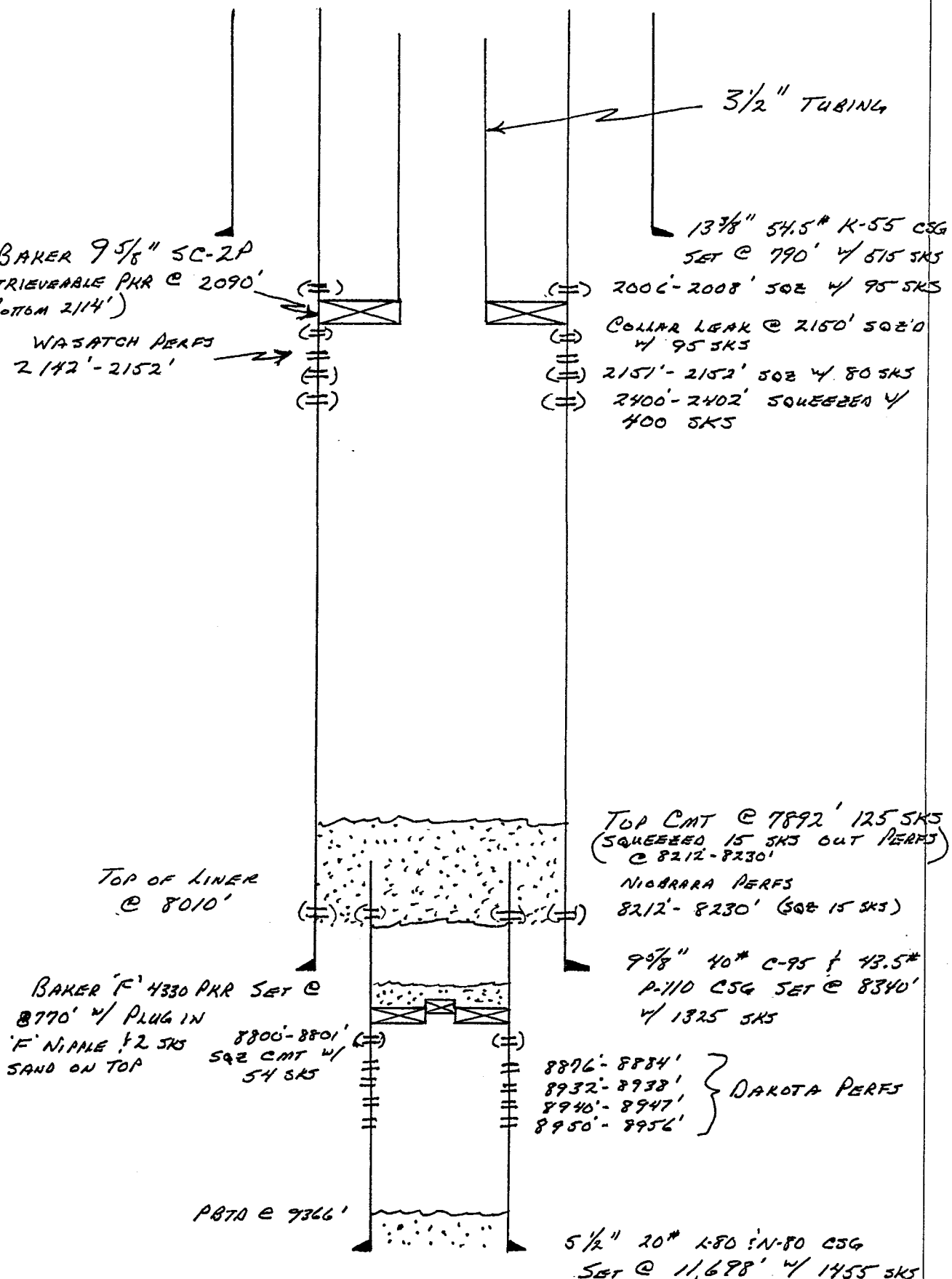
Thank you for your time in reviewing our proposal. You may reach me at (303) 299-1515.

Yours very truly,

Steve Hall
Engineering Manager - Rocky Mountains

File
Attachment

TEXAS CREEK #14-22



FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number: Fee

SUNDRY NOTICES AND REPORTS ON WELLS

6. If Indian, Allottee or Tribe Name:

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

7. Unit Agreement Name:

1. Type of Well: OIL ☐ GAS ☒ OTHER:

8. Well Name and Number: TEXAS CREEK #14-22

2. Name of Operator: THE ANSCHUTZ CORPORATION

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 17th Street, Suite 2400 - Denver, CO 80202 303-298-1000

10. Field and Pool, or Wildcat: LONE MOUNTAIN(WASATCH)

4. Location of Well

Footages: 465' FSL and 1363' FWL

County: UINTAH

QQ, Sec., T., R., M.: SESW Sec.22, T11S, R25E

State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
XX Abandon	☐ New Construction	☐ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☐ Other	
☐ Other			

Approximate date work will start: OCTOBER 10, 1997

Date of work completion:

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

1) Notify State inspector.

2) Rig up Service Rig. Load hole with fresh water w/corrosion inhibitor and oxygen scavenger.

3) Pull tubing and packer; RIH w/tubing open-ended.

4) Set plugs as follows: (1) 185 sacks from 2450'-1950' (500'); (2) 37 sacks from 840'-740' (100'); (3) 6 sacks from 20'-4' (16').

5) Fill any annular voids.

6) Cut casing 4' below ground level, weld on plate and dry hole marker.

7) Back fill cellar, clean and level location.

* Verbal approval received from John Baza, September 26, 1997.

13.

Name & Signature: Steve Hall Title: Engineer Manager Date: 10/02/97

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING

DATE: 10/7/97

BY: John R. Baza

See attached Conditions.

(See Instructions on Reverse Side)

(4\94)

RECEIVED

OCT 06 1997

DIV. OF OIL, GAS & MINING

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

CONDITIONS OF APPROVAL

Well Name and Number:	Texas Creek #14-22
API Number:	43-047-32693
Operator:	Anschutz Corporation
Type of Approval Requested:	P&A well
Reference Document:	Sundry notice dated 10/02/97

Approval Conditions:

1. After pumping the balanced plug inside the 9-5/8" casing at 2450'-1950', the operator will wait on cement for an appropriate length of time to allow setting of the cement. The operator will then tag the plug and set down with adequate weight on the work string to ensure that the plug top exists at the anticipated depth and that the cement has set up.

2. The interval between plugs shall be filled with noncorrosive fluid.

3. If not already sealed at surface, all casing annuli shall be sealed with cement.

4. The operator shall verbally notify the Division at least 24 hours prior to commencing plugging operations to allow for witnessing of operations by a Division representative. Contact David Hackford, ph. (801)722-3417 or John Baza, ph. (801)538-5334.

John R. Baza, Associate Director

10/7/97
Date

BJ Services Company — CEMENT JOB DETAIL SHEET

CUSTOMER	DATE	FR #	SER. SUP.	TYPE JOB
Anschutz	12-22-97	82446	Todd Losan	2 1/2

LEASE & WELL NAME OCSG	LOCATION	COUNTY/PARISH/BLOCK
Texas Creek 14-32	S 32 - T 11S - R 25E	Uintah

DISTRICT	DRILLING CONTRACTOR/RIG #	OPERATOR
Vernal	Colo Well	Same

MATERIAL FURNISHED BY WPS	TYPE OF PLUGS (TOP / BTM)	LIST-CSG-HARDWARE	SQ MANI FOLD Y N	TOP OF EACH FLUID	PHYSICAL SLURRY PROPERTIES: SLURRY WGT PPG	SLURRY YLD FT³	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
1st plug	N/A	N/A		2088	15.8	1.14	5.0	1:30	38	22.3
2nd plug	37 sks G + 2% CaCl₂			731	15.8	1.14	5.0	1:30	7.5	6.0
3rd plug	29 sks G + 2% CaCl₂			Surf	15.8	1.14	5.0	1:30	5.9	3.5
4th plug	13 sks G Neat			Surf	15.8	1.14	5.0	1:30	2.6	1.5
								TOTAL	54	33.3

Available Mix Water 100 Bbl. Available Displ. Fluid 80 Bbl.

HOLE SIZE	% EXCESS	DEPTH	TBG-CSG-D.P. SIZE	WGT.	TYPE	DEPTH	TBG-CSG-D.P. SIZE	WGT.	TYPE	DEPTH	COLLAR DEPTHS SHOE	FLOAT	STAGE
			3½	9.2	N-80	2448	9⅝	40	J-55	8340			

LAST CASING SIZE	WGT	TYPE	DEPTH	PKR-CMT RET-BR PL-LINER BRAND & TYPE	DEPTH	PERF. DEPTH TOP	BTM	TOP CONN SIZE	THREAD	WELL FLUID TYPE	WGT.
5½	17	J-55	11,698					3½	8 Rd.	Treated H₂O	8.3

CAL. DISPL. VOL.-Bbl. TBG.	CSG.	CSG.	TOTAL	CAL. PSI BUMP PLUG	CAL. MAX PSI TO REV	OP. MAX SQ. PSI	MAX TBG PSI RATED	OP.	MAX CSG PSI RATED	OP.	DISPL. FLUID TYPE	WGT.	WATER SOURCE
.00870			16.6				6980	5584	5320	4256	H₂O	8.3	Truck

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL

TIME HR: MIN.	PRESSURE-PSI PIPE	ANNULUS	RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	EXPLANATION
						SAFETY MEETING: WPS CREW ☐ CO. REP ☐
						TEST LINES To 10 PSI 1000
						CIRCULATING WELL-RIG ☐ WPS ☐
10:16			9.5		Treated H₂O	START Circulate
10:55	56			50		Shut down well circulated - MIX CEMENT
10:56	100		3.0		CMT.	START CMT. @ 15.8#
11:08	100		3.0	38	Tr H₂O	Start Displacement - Treated H₂O
11:15	150			16		Shut down plug Balanced 2nd plug
3:00	50		3.0		CMT.	START CMT. @ 15.8#
3:07	50		7.0	7.5	H₂O	Stop CMT. START Disp.
7:12	65		3.0	6.0		Shut down plug Balanced 3rd plug
5:56	0		1.5		CMT.	START CMT. @ 15.8#
6:00	0			5.9		Shut down CMT. To Surf. 4th plug
7:23	0		1.5		CMT.	START CMT. @ 15.8#
7:28	0			2.6		Shut down CMT. To Surf.

BUMPED PLUG Y N	PSI TO BUMP PLUG	TEST FLOAT EQUIP. Y N	TOTAL Bbl. PUMPED	Bbl. CMT RETURNS/ REVERSED	PSI LEFT ON CSG	SPOT TOP CEMENT	SER. SUP. Todd Losan
Y N	—	Y N	126	—	—	Surf	CUSTOMER REP. Dale Griffin

1552 (7-95)

ANSCHUTZ DAILY COMPLETION REPORT

Lease TEXAS CR. Well No. 14-22
Field UINTAH
County UT.
Operator ANSCHUTZ EXPL. CORP.
Contractor COLO. WELL SERVICE Rig No. 22
Operation PBD
Date* 12/22/97 Oper Days 2 CC $ 3571

Formation	Perforated Interval	SPF	Status

Summary

Rig Hours: Today 9 Cum 14½

To Time	Hrs		Operations Starting 0700	SITP 25	SICP 25	FL	HRS SI
		-	RIG UP, BLEED WELL DOWN, ND TREE,				
1200	5	-	RELEASE SEAL ASSEMBLY, N U BOP.				
			PULL 30 STANDS OF TBG., HAD TROUBLE				
			BREAKING TBG. CONECTIONS.				
1430	2	½	BROKE HYDRAULIC HOSE ON RIG. SHUT DOWN				
1630	2	-	WAIT ON RIG PARTS & REPAIR RIG.				
1645		¼	OUT OF HOLE W/ TBG. & SEAL ASSEMBLY				
			PICK UP RETRIEVING TOOL & T/H W/				
			68 JTS. 3.5 TBG., LATCH ON TO PKR.				
			UNSET PKR.				
1800	1	¼	SWIFD				

Cost				
Item	Today		Cum	
Rig	1	337	2	161
Sprvsn		450		900
Mud				
Water				
Fuel Lub				
Supply				
Cmt Cmtg				
Log Perf				
Treat				
Rentals				
Transportation		510		510
Third Party				
Road & Lctn				
Other				
Total Intang	2	297	3	571
Csg				
Tbg				
Well Head				
Flow-line				
Tank Btry				
Art Lift				
Other				
Total Tang	—			
Total	2	297	3	571

*Date on which operations end

ANSCHUTZ DAILY COMPLETION REPORT

Lease TEXAS CR. Well No. 14-22
Field UINTAH
County UT.
Operator ANSCHUTZ EXPL. CORP.
Contractor COLO. WELL SERVICE Rig No. 22
Operation P+A PBD
Date* 12/23/97 Oper Days 3 CC's 24,529

Formation	Perforated Interval	SPF	Status

Summary

PLUGGING COMPLETE & DRY HOLE MARKER SET.
ALL PLUGS & DRY HOLE MARKER, OK PER DAVID HACKFORD, UT. STATE.

Rig Hours: Today 13 Cum 27 1/2

To Time	Hrs		Operations	SITP	SICP	FL	HRS SI
			Starting 0730	15	5		13
0845	1	1/4	TOH W/TBG. + PKR.				
1015	1	1/2	TIH W/ 79 JTS. 3.5 TBG. TO 2456' KB				
			HOOK UP FLOWLINE & CIRC. HOLE FULL OF				
			WATER MIXED W/ CHAMPION CORTRON				
			2383 PKR. FLUID. 2%.				
			PUMP 185 SKS. CLASS G CEMENT W/ 2%				
			KCL. BOTTOM OF CEMENT AT 2456', TOP				
1115	1	—	AT 1956'. PULL TBG. UP TO 1850'. . .				
1330	2	1/4	WOC. TAG TOP OF CEMENT AT 2086'.				
			OK PER DAVID HACKFORD W/STATE OF UT.				
1500	1	1/2	LAY DOWN 40 JTS. 3.5 TBG, EOT AT 841' KB				
			PUMP 37 SKS. CLASS G CEMENT W/ 2% KCL.				
1520		1/2	PLUG FROM 840' TO 740'.				
1630	1	—	LAY DOWN 27 JTS. 3.5 TBG, EOT AT 28' GLM				
			ND BOP. PUMP CLASS G CEMENT PLUG FROM				
1700		1/2	30' TO SURFACE.				
1815	1	1/4	DIG OUT CELLER.				
			CUT 13 3/8 + 9 5/8 CSG. 4' BELOW GROUND.				
			FILL 13 3/8 - 9 5/8 ANNULUS W/ 70' OF				
			CLASS G CEMENT.				
			WELD DRY HOLE MARKER ON.				
2030	2	1/4	SHUT DOWN UNTILL 12-26-97				
			Dale Duffin				

Cost						
Item	Today			Cum		
Rig	1	837		3	998	
Sprvsn		450		1	350	
Mud						
Water	3	253		3	253	
Fuel Lub						
Supply						
Cmt Cmtg	8	277		8	277	
Log Perf						
Treat						
Rentals						
Transportation						510
Third Party						
Road & Lctn						
Other						
ROUSTABOUTS	5	664		5	664	
BAKER	1	477		1	477	
Total Intang	20	958		24	529	
Csg						
Tbg						
Well Head						
Flowline						
Tank Btry						
Art Lift						
Other						
Total Tang						
Total	20	958		24	529	

*Date on which operations end

SCHUTZ DAILY COMPLETION REPORT

Lease TEXAS CR. Well No. 14-22
Field UINTAH
County UT.
Operator ANSCHUTZ EXPL. CORP.
Contractor FLINT Rig No.
Operation P&A PBD
Date 12/26/97 Oper Days 4 CC$ 28,224

Formation	Perforated Interval	SPF	Status

Summary

FINAL REPORT.

Rig Hours: Today Cum

To Time	Hrs	Operations (Starting 0700)	SITP	SICP	FL	HRS SI
		CUT PIPE LINE FROM LOC. TO MAIN LINE				
		TIE IN. 106 JTS. 3", ESTIMATED 4,000'				
		COMPLETE DISCONECT OF EQUIP. ON				
		LOC. DRAIN WATER FROM OIL TANK,				
1300	6	FINAL GAUGE 10 "5", 3" WATER.				
		LOAD OUT RENTAL EQUIP.				
		CLEAN, DOPE & INSTALL THREAD PROTEC-				
		-TORS ON 67 JTS. 3.5" TBG.				
		LOAD 106 JTS. 3" LINE PIPE & HAUL				
1830	5 1/2	TO FLINT YARD IN VERNAL.				
		QUIT FOR DAY				
		FINAL REPORT				
		Dale Griffin				

Cost Item	Today	Cum
Rig		3 998
Sprvsn	450	1 800
Mud		
Water		3 253
Fuel Lub		
Supply		8 277
Cmt Cmtg		
Log Perf		
Treat		
Rentals		
Transportation		510
Third Party		
Road & Lctn		
Other		
ROUSTABOUTS	3 245	8 909
BAKER		1 471
Total Intang	3 695	28 224
Csg		
Tbg		
Well Head		
Flow-line		
Tank Btry		
Art Lift		
Other		
Total Tang		
Total	3 695	28 224

*Date on which operations end

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number:

SUNDRY NOTICES AND REPORTS ON WELLS

6. If Indian, Allottee or Tribe Name:

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

7. Unit Agreement Name:

1. Type of Well: OIL ☐ GAS ☒ OTHER:

8. Well Name and Number: Texas Creek #14-22

2. Name of Operator: Anschutz Exploration Corporation

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 17th Street, Suite 2400 Denver CO 80202 303-298-1000

10. Field and Pool, or Wildcat: (Wasatch) Lone Mountain

4. Location of Well

Footages: 465' FSL and 1363' FWL

County: Uintah

QQ, Sec., T., R., M.: SE¼SW¼, Section 22, T11S-R25E

State: Utah

11. **CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☒ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☐ Other	
☐ Other			

Approximate date work will start

Date of work completion: December 26, 1997

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

1) MIRU, Bled well down, ND tree, NU BOP, pulled TBG & seal assembly.
2) PU retrieving tool, TIH w/ TBG, latch on to PKR, POH.
3) TIH to 2456', circulate hole w/ wtr & corrosion inhibitor.
4) umped 185 SKS class "C" CMT w/ 2% KCL, bottom @ 2456; Top @ 1956'. WOC.
5) Tag top of CMT @ 2086'. OK per David Hackford w/ State of Utah.
6) Pull up to 840', set 37 SKS CMT from 840' to 740'.
7) Pull up to 30', set CMT plug from 30' to 4'.
8) Cut 13 3/8" & 9 5/8" CSG 4' below ground. Fill 13 3/8"-9 5/8" annulus w/ 70' of CMT.
9) Weld on Dry Hole marker and plate. Abandonment complete.

13.

Name & Signature: Steve Hall Title: Engineering Manager Date: 3/16/98

(This space for State use only)

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

(See Instructions on Reverse Side)

RECEIVED
MAR 20 1998
DIV. OF OIL, GAS & MINING

(4/94)

ANSCHUTZ
EXPLORATION CORPORATION
555 SEVENTEENTH STREET • SUITE 2400 • DENVER, COLORADO 80202 • 303-298-1000 • FAX 303-298-8881

September 2, 1999

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 W. North Temple, Ste. 1210
Salt Lake City, UT 84114-5801

RE: Texas Creek #14-22
Uintah County, Utah
API No. 43-047-32693
Sundry Notice – Subsequent Abandonment (form 9)

Dear Ladies and Gentlemen:

Enclosed please a completed sundry notice for subsequent abandonment for the referenced well.

Please contact me at (303) 299-1344 with any questions and thanks for your patience in this matter.

Sincerely,

ANSCHUTZ EXPLORATION CORPORATION

Susan M. Balano
Operations Technician

SMB
cc: Mitchell Energy Corporation – Gail Alston
Attachment

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☒ OTHER:

8. Well Name and Number: Texas Creek #14-22

2. Name of Operator: THE ANSCHUTZ CORPORATION

9. API Well Number: 43-047-32693

3. Address and Telephone Number: 555 17th Street, Suite 2400, Denver, CO 80202

10. Field and Pool, or Wildcat: Lone Mountain (Wasatch)

4. Location of Well

Footages: 465' FSL and 1363' FWL

QQ, Sec.,T.,R.,M.: SESW Section 22, T11S, R25E

County: Uintah

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit In Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
☐ Abandon	☐ New Construction	☒ Abandon *	☐ New Construction
☐ Repair Casing	☐ Pull or Alter Casing	☐ Repair Casing	☐ Pull or Alter Casing
☐ Change of Plans	☐ Recomplete	☐ Change of Plans	☐ Reperforate
☐ Convert to Injection	☐ Reperforate	☐ Convert to Injection	☐ Vent or Flare
☐ Fracture Treat or Acidize	☐ Vent or Flare	☐ Fracture Treat or Acidize	☐ Water Shut-Off
☐ Multiple Completion	☐ Water Shut-Off	☐ Other	
☐ Other			

Approximate date work will start

Date of work completion 12/22/97

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

12/22/97 Pump 185 sacks Class "G" cement with 2% KCL.. Bottom of cement @ 2456', TOC @ 1956'. Pull tubing up to 1850'. WOC. Tag TOC @ 2086'. LD 40 jts 3.5" tbg. EOT @ 841' KB. Pump 37 sacks Class "G" cement with 2% KCL.. Plug f/840-740'. LD 27 jts 3.5" tbg. EOT @ 28' GLM. ND BOP. Pump Class "G" cement plug f/30' to surface. Dig out cellar. Cut 13-3/8" + 9-5/8" casing 4' below ground. Fill 13-3/8" + 9-5/8" annulus to 10' of Class "G" cement. Weld on dryhole marker. Plugging and abandonment operations approved by state of Utah representative, David Hackford.

13.

Name & Signature: Steve Hall Title: Engineering Manager Date: 2/17/98

(This space for State use only)

RECEIVED
SEP - 7 1999
DIV. OF OIL, GAS & MINING

(4\94) (See Instructions on Reverse Side)

BJ Services Company — CEMENT JOB DETAIL SHEET

CUSTOMER	DATE	FR #	SER. SUP.	TYPE JOB
Arshutz	12-22-97	127446	Todd Losan	P&A

LEASE & WELL NAME-OCSG	LOCATION	COUNTY-PARISH-BLOCK
Texas Creek 14-22	S22-T11S-R25E	Uintah

DISTRICT	DRILLING CONTRACTOR RIG #	OPERATOR
Vernal	Colo Well	Same

MATERIAL FURNISHED BY WPS	TYPE OF PLUGS (TOP / BTM)	LIST-CSG-HARDWARE	SQ MANI FOLD (Y N)
	N/A	N/A	~~N~~

Material	TOP OF EACH FLUID	SLURRY WGT PPG	SLURRY YLD FT³	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
1st plug 187 SKS G + 2% CACl₂	2081	15.8	1.14	5.0	1:30	38	22.3
2nd plug 37 SKS G + 2% CaCl₂	731	15.8	1.14	5.0	1:30	7.5	6.0
3rd plug 29 SKS G + 2% CACl₂	Surf	15.8	1.14	5.0	1:30	5.9	3.5
4th plug 13 SKS G Neat	Surf	15.8	1.14	5.0	1:30	2.6	1.5
					TOTAL	54	33.3

Available Mix Water 100 Bbl. Available Displ. Fluid 80 Bbl.

HOLE SIZE	% EXCESS	DEPTH	(TBG)-CSG-D.P. SIZE	WGT.	TYPE	DEPTH	TBG-(CSG)-D.P. SIZE	WGT	TYPE	DEPTH	COLLAR DEPTHS SHOE	FLOAT	STAGE
/	/	/	3 1/2	9.2	N-80	2448	9 5/8	40	J-55	8340	/	/	/

LAST CASING SIZE	WGT	TYPE	DEPTH	PKR-CMT RET-BR PL-LINER BRAND & TYPE	DEPTH	PERF. DEPTH TOP	BTM	TOP CONN SIZE	THREAD	WELL FLUID TYPE	WGT.
5 1/2	17	J-55	11,698	/	/	/	/	3 1/2	8 Rd.	Treated H₂O	8.3

CAL. DISPL. VOL.-Bbl. TBG	CSG	CSG	TOTAL	CAL. PSI BUMP PLUG	CAL. MAX PSI TO REV	OP. MAX SQ. PSI	MAX TBG PSI RATED	OP.	MAX CSG PSI RATED	OP.	DISPL. FLUID TYPE	WGT.	WATER SOURCE
.00870	/	/	16.0	/	/	/	6980	5584	5320	4256	H₂O	8.3	Truck

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG., ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL — EXPLANATION

SAFETY MEETING: WPS CREW ☐ CO. REP ☐
TEST LINES 10 to 10 PSI 1000
CIRCULATING WELL-RIG ☐ WPS ☐

TIME HR: MIN.	PRESSURE-PSI PIPE	ANNULUS	RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	EXPLANATION
10:16			9.5		Treated H₂O	Start Circulate
10:55	56			50		Shut down well circulated - mix cement
10:56	100		3.0		CMT.	Start CMT. @ 15.8#
11:08	100		3.0	38	T. H₂O	Start displacement - Treated H₂O
11:15	150			16		Shut down plug Balanced
						2nd plug
3:00	50		3.0		CMT.	Start CMT. @ 15.8#
3:07	50		3.0	7.5	H₂O	Stop CMT. Start Disp.
3:12	65		3.0	6.0		Shut down plug Balanced
						3rd plug
5:56	0		1.5		CMT.	Start CMT. @ 15.8#
6:00	0			5.9		Shut down ~~CMT~~ CMT. To Surf.
						4th plug
7:23	0		1.5		CMT.	Start CMT. @ 15.8#
7:28	0			2.6		Shut down CMT. To Surf.

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	TOTAL Bbl. PUMPED	Bbl. CMT RETURNS/ REVERSED	PSI LEFT ON CSG	SPOT TOP CEMENT
Y ~~N~~	—	Y N	126	—	—	Surf

SER. SUP. Todd Losan
CUSTOMER REP. Dale Griffin

ORIGINAL

RECEIVED
DEC 29 1997

BJ SERVICES COMPANY

REMIT TO: P.O. BOX 891058
DALLAS, TX 75389-1058

INVOICE NO.	YOUR RECEIPT NO.	DATE
603458	127416	12/23/97

DIVISION	DISTRICT	YOUR ORDER NO.
03110	1535	

ANSCHUTZ EXPLORATION CORP
555 17TH STREET, SUITE 2400
DENVER CO 80202

SERVICES FROM OUR STATIONED AT	OUR ENGINEER	SIGNED FOR YOU BY
VERNAL CEMENTING	LOGAN	GRIFFIN

WELL NAME FOR SERVICING	COUNTY	STATE
TEXAS CREEK 14-22	UINTAH	UT 43

PRODUCT CODE	DESCRIPTION	UNIT OF MEASURE	QUANTITY	LIST PRICE/UNIT	GROSS AMOUNT	PERCENT DISC.	NET AMOUNT	
J4016	BULK MATERIAL DELIVERY, DRY	TONMI	687.5	1.200	825.00	35.00	536.25	**
J3906	MILEAGE, HEAVY VEHICLE, PER UNIT	MILE	110.0	3.600	396.00	35.00	257.40	**
J3916	MILEAGE, AUTO/PICK-UP/TREATING VAN	MILE	220.0	2.150	473.00	35.00	307.45	**
F0566	CEMENT THRU TUBING, 2001 - 2500 FT	6HRS	1.0	2445.000	2445.00	35.00	1,589.25	**
M1006	BULK MATERIALS SERVICE CHARGE	CU FT	276.0	1.600	441.60	35.00	287.04	**
J2256	DATA AQUISISTION, CEMENT, STANDARD	JOB	1.0	670.000	670.00	35.00	435.50	**
P433L	PREMIUM CMT, VERNAL, UT	94LBS	266.0	13.860	3686.76	35.00	2,396.39	**
H5030	CALCIUM CHLORIDE-UTAH	LB	650.0	.510	331.50	35.00	215.48	**
F0886	CEMENT THRU TUBING, ADDITIONAL HOURS	HOUR	9.0	385.000	3465.00	35.00	2,252.25	**
	SUB TOTAL				12733.86		8,277.01	
96900	UTAH SALES TAX 4.75%						393.16	
96343	UINTAH COUNTY 1.1%						91.04	

Anschutz Company & Subsidiaries
Acct. Center: _____ Acct. #: 2128-0010
Well/Prospect: _____ AFE #: 5103040
Description: PLUGGING - Cement
Special Handling Instructions. _____
Approved By: _____ Date: 1/12/98

BK 1/12/98
Plugging Cement

PHONE: (713) 462-4239 TERMS: NET 30 DAYS

PAY THIS AMOUNT

BJS 1120